

Medical Times

8 LONG ISLAND MEDICAL JOURNAL
ESTABLISHED 1904

In This Issue

George H. Tuttle Elucidates the Pituitary Mechanism in Diabetes

Max Trumper Clarifies the Biochemistry of Colitis

Israel Bram Reports Some Thyroidal Experiences with Children

Edward E. Cornwall Examines the New Knowledge of the Circulation

I. Arthur Stoloff Outlines Important Aspects of Industrial Surgery

Complete Index to Reading on pages 13, 14

Volume 63, No. 8

NATIONAL POISON IVY ANTIGENS



RHUS TOX ANTIGEN

The treatment of poison ivy (rhus dermatitis) was entirely symptomatic and most unsatisfactory until the active antigen for specific treatment was produced.

Relief in a few hours and complete cure in a few days may be expected from Rhus Tox Antigen for poison ivy, Rhus Venenata Antigen for poison oak.

The Antigens are prepared under U. S. Govt. License 102 and accepted by the Council on Pharmacy and Chemistry of The A. M. A. Reprint from articles in Jour. A. M. A., Med. Jour. and Res., Arch. of Dermatology sent on request.

Poison Ivy Antigens are readily absorbed, are free from oil base, are stable and retain their potency for years. In packages containing 4-cc. ampul-vials. Physicians' price \$3.50. Two-1 cc. syringes, \$2.25.



Ragweed Antigen for Treatment of Fall Hay Fever



Complete Treatment (24 doses) in 5 cc. Ampul-vials

V 209 { Series "AA" 125 nitrogen units (8 doses) }
 { Series "A" 250 nitrogen units (8 doses) } \$8.50
 { Series "B" 500 nitrogen units (8 doses) }

We offer the above Special Outfit, for diagnosis and treatment of Fall Hay Fever, containing two diagnostic tests, 1 ampul-vial each of Series "AA" "A" and "B" Ragweed Antigen; 25 cc. ampul-vial of Sterile Salt Solution, for dilution of antigen if needed; 25 cc. ampul-vial of Epinephrin 1-1000, to control local or systemic reactions.

Ragweed Antigen Outfit complete, \$10.00

THE NATIONAL DRUG
CHAMBER



Mail Hay Fever and Poison Ivy Antigen Brochures per Medical Times

Name

Address Date



Medical Times

AND LONG ISLAND MEDICAL JOURNAL
(CONSOLIDATED)

Volume 63, No. 8

August, 1935

Twenty-Five Cents a Copy
Two Dollars a Year

Studies in Diabetes

No. 7. The Anterior Pituitary and Diabetes

- George H. Tuttle, M.D., South Acton, Mass., Formerly Assistant in Medicine, Massachusetts General Hospital

THE new conception that diabetes may be due to hyperfunctioning of the anterior lobe of the pituitary gland has received a new impetus from the recent extensive experiments of Lucke of Göttingen¹ following the earlier results of Houssay, Evans, Smith and many others. The physiological functioning of five separate hormones of the anterior pituitary has been practically established, and as many more hormones are reasonably suspected of being produced by this gland because of manifestations which render their existence scientifically probable. Among these latter is the contra-insulin hormone of Lucke, which has well defined effects upon carbohydrate metabolism, and has special interest for those seeking more knowledge of the etiology of diabetes.

The two methods of searching out the existence of these hormones have been by hypophysectomy, and the injection of fractionated extracts of the anterior lobe of the gland. After hypophysectomy wide-spread effects such as atrophy or hypofunctioning appear in far distant parts of the body, while a greatly *increased* action of insulin develops. When extracts of the gland are injected into normals wide-spread hypertrophies and hyperplasias and hyperfunctioning appear in many organs, while hyperglycemia and a much *decreased* action of insulin results. All of these effects point to the fact that the pituitary is the fountain head from which come a group of hormones which activate and regulate the activity of many important organs and many complicated physiological processes such as the carbohydrate, fat, and protein metabolism.

It had been thought previously that these hormones were absorbed into the blood stream and produced their effects humorally only, but the experiments of Lucke show that the metabolic hormone, at least, is absorbed into the cerebrospinal fluid, where it directly stimulates the sympathetic centre, which sends impulses through the splanchnic nerve to the medulla of the suprarenals, where it brings about the production of epinephrine—another hormone—which mobilizes glycogen and

causes the resulting hyperglycemia. In other words, this hormone does not act chemically or enzymatically upon a specific substrate as insulin does, but has the power of exciting nerve impulses directly. It is probable that this same hormone acts similarly upon the parasympathetic centre, sending impulses inhibiting insulin production through the vagus, as noted by Clark³ and quoted by Macleod². By either pathway such impulses would produce hyperglycemia. Impulses passing through the vagus which increase insulin production, on the contrary, are caused by abnormally high blood sugar (La Barre), but, as will be shown later, a rise of the blood sugar in the brain, which occurs in La Barre's experiments, also causes a decreased production of the contra-insular hormone, resulting in diminished inhibitory impulses sent through the vagus with a consequent increase of insulin action. Thus we find a complete harmony between all these forces as regards insulin and the blood sugar.

The action of this hormone upon nerve centres indicates that hormones may produce effects, either by direct stimulation of nerves, or by becoming the activators of enzymes in the blood which act chemically upon substrates.

We find, therefore, that hyperglycemia occurs whenever the metabolic hormone of Lucke increases beyond normal limits; and that the hormone does this by increasing the epinephrine supply and inhibiting the production of insulin by means of impulses originating in the sympathetic and parasympathetic centres, respectively. So that it is evident that a diabetic state might be produced in this way. To keep up such a diabetic state, however, there must exist constant and long continued hyperfunctioning of the pituitary. I do not recall any primary pathological conditions of the pituitary itself, except acromegaly and Cushing's basophilic adenoma, which could keep up this constant hyperfunctioning of the gland, and those cases would only represent a small fraction of 1% of all cases of diabetes. So that, thus far, we have

no reason to say that primary disease of the pituitary is a cause of diabetes except in a very few cases.

And now let us see if we can find any evidence that the pituitary may cause diabetes in experiments of hypophysectomy as performed by Hous-say, Evans, Smith and others. When the pituitary is totally ablated a condition of extreme or complete hypofunction is produced. What effect appears in the metabolism? A state of hypoglycemia with great sensitivity to insulin is noticed immediately. This experiment alone shows that no hypofunctioning of the pituitary, as in Simmond's disease, can possibly be a cause of diabetes.

Hence the conclusion must be made that the pituitary, by itself, cannot produce the diabetic state except in a few cases of acromegaly and in still fewer of Cushing's disease, and in pregnancy. We might stop here, but there is much more to be said and much more to be learned about diabetes in these recent discoveries of the pituitary hormones and their far-reaching control of whole organs and important physiological processes. What originates the action of the pituitary itself to compel it to produce all these hormones? I believe that the rise and fall of the blood sugar originates, determines, and controls the action of the pituitary; and the rest of this article will be devoted to the development of this hypothesis, with an attempt to show that the effect of diabetes upon pituitary function and action is much more important than any effect which the pituitary can have in producing diabetes.

RECIPROCAL CONTROL BETWEEN BLOOD SUGAR AND PITUITARY

Before we can consider the relations between the blood sugar and the pituitary it is necessary to thoroughly understand the effect of pancreatic and cellular insulin upon the blood sugar, as well as the influence of certain pituitary hormones upon the action of these two insulins. Primarily the rise and fall of the blood sugar depends upon the amount of pancreatic insulin that is discharged into the blood from the gland; and this is shown by the fact that immediately following the injection of commercial pancreatic insulin, the blood sugar falls and an amount of sugar proportional to the amount of insulin disappears from the blood stream going to the tissue cells. After the glucose reaches the cells, it becomes oxidized or converted to glycogen through the action of cellular insulin and certain oxidizing agents such as phosphorus and iron. For these reasons it will be necessary later on to consider the separate action of pituitary hormones on each of these insulins. The chief facts concerning the action of these pituitary hormones I have drawn from the experiments of Houssay and Lucke. First of all, I wish to call attention to the fact that Hous-say's experiments plainly show an increase of insulin action after hypophysectomy in normal dogs, which action I hope to show later might come from stimulation of either or both of the insulins. But I particularly want the reader to notice that when pancreatectomy is performed first, before removal of the pituitary, a marked increase of insulin likewise occurs, usually sufficient to prevent the ap-

pearance of diabetic symptoms in the dog. Please notice that this is cellular insulin and not pancreatic insulin which removal of the pituitary causes to increase so markedly in depancreatized dogs.

We may now review the general effects of increasing the amount of the contra-insular or metabolic hormone of Lucke to a condition of hyperpituitarism which results in a raised blood sugar and a decreased action of insulin; as well as the effects of decreasing this hormone to a condition of hypopituitarism which results in a lowered blood sugar and an increased action of insulin. Thus a definite relationship may be seen to exist between the production of the pituitary hormone and the concentration of the blood sugar and, since the concentration of the blood sugar depends upon the action of the two insulins of the body, it is necessary to consider the different ways in which the pituitary hormone increases or decreases their production. Lucke has shown, by injecting the hormone into the cerebrospinal fluid, that it causes a stimulation of the sympathetic centre with a distinct augmentation of adrenaline action¹; but in all such hyperpituitary states there is a decrease in insulin action at the same time which he has not mentioned. Such decrease of insulin must be by inhibition, and it is probable that inhibitory impulses are sent through the vagus, following similar stimulation of the parasympathetic centre by the pituitary hormone, as was observed by Clark² and quoted by Macleod.² This, however, would not account for the decrease of insulin in depancreatized dogs, and such inhibition, therefore, can only be explained by inhibition of the cellular insulin which is likewise diminished by an increase of the pituitary hormone. Houssay's experiments show how the cellular insulin increases in depancreatized dogs when this inhibition, exerted by the pituitary, is removed by hypophysectomy.

We have, then, these two forces of the pituitary working simultaneously, and the combined effect is a rise of the blood sugar. In hypopituitarism the reverse occurs with a lowered blood sugar. Although we have definite proof that the metabolic hormone of the pituitary controls the rise and fall of the blood sugar, we have not yet experimental proof that the blood sugar regulates the production of this hormone by the pituitary. And yet I think that we are justified in assuming as a hypothesis that such is the case.

If we assume that when the blood sugar is normal, pituitary action is just sufficient to preserve the physiological tone of adrenaline production, and just strong enough to exert a physiological inhibitory check upon an overproduction of either insulin, then we may study the effect of changes in the blood sugar upon this state of equilibrium. I will first quote the following from Professor Best's recent lectures³: "The evidence seems overwhelming that a rise in sugar content of the blood increases the rate of output of insulin." Such an increase also occurs in all hypopituitary states. Intuitively we feel that in normals, when the blood sugar has risen to high normal limits and is in danger of overflowing the kidney threshold, a diminished action of the pituitary hormone, which as we have seen increases the general insulin supply,

would reduce the blood sugar to normal limits again. On the other hand, if the blood sugar is low in the general circulation and approaching hypoglycemic levels, we feel that an increased action of the hormone which produces a marked adrenaline effect would raise the blood sugar and restore equilibrium. We deduce the conclusion, then, that a high blood sugar decreases the production of the metabolic hormone of the pituitary and that a low blood sugar increases it. And thus we perceive the reciprocal automatic control which the blood sugar and the pituitary exert one upon the other. The pituitary is a perfect balance wheel for the carbohydrate metabolism controlling the rise and fall of the blood sugar and being in turn controlled by it.

EFFECT OF DIABETIC STATES UPON PITUITARY FUNCTIONS

Although diabetic states probably influence other hormones of the pituitary, we will only consider their effects upon the contra-insular hormone of Lucke as shown in diabetic metabolism. We will leave physiological states and investigate diabetic metabolism. In mild untreated cases of diabetes we find at first some glycosuria and a slightly raised blood sugar at certain times during the twenty-four hours; as the disease becomes progressively worse these symptoms increase and become permanent. At first the slightly raised blood sugar causes less production of the pituitary hormone, resulting in a slight decrease of adrenaline, and a slight increase of insulin action; but as the case progresses and the blood sugar rises more and more over long periods of time, a limit is reached where no more hormone can be formed, no more adrenaline can be called out by this hormone, and the production of insulin is no longer inhibited, so that this function of the pituitary becomes temporarily or permanently exhausted. This function may be reestablished in many cases by the use of insulin.

To follow the reasoning out to a further interesting conclusion we find the two insulins perfectly free from all inhibitory control; and, as the pancreatic insulin is still stimulated through the parasympathetic centre (La Barre) by the high blood sugar, if there were not other factors in this diabetic case preventing, the increased insulin supply caused by diminished pituitary action would easily handle the increased blood sugar. But as I have tried to show in a recent article⁵, the sugar of the blood stream cannot reach the tissue cells where the cellular insulin is, unless there is a sufficiency of pancreatic insulin to cause its migration from the blood stream to the cells; and in these severe cases there evidently isn't enough of it, because we have to supply 50 to 100 units of exogenous insulin to bring them up to normal. And this gives us an indirect method of diagnosing the condition of the pituitary in respect to this hormone. If the pituitary is only partially deranged in its function, insulin treatment of the diabetes will enable it to gradually regain its function, as is seen in mild or moderately severe diabetic cases where the insulin can gradually be reduced; but if the insulin cannot be reduced it

shows that pituitary function, so far as this hormone is concerned, has been completely checked by the diabetes, and that constant high insulin dosage is required to enable it to function.

The chronic hyperglycemia of an untreated case of diabetes would depress the action of the pituitary and gradually diminish to *nil* the production of the contra-insular hormone. The giving of insulin would reduce the hyperglycemia and relieve the depressing effect. This relief to the pituitary would occur in either mild or severe cases of diabetes where insulin was properly given, and the pituitary would be restored to normal, but the diabetes would still remain, in the severe cases, as shown by the fixed insulin dosage. So that the conclusion must be reached that the condition of the pituitary, except in a few cases of acromegaly and Cushing's disease, cannot affect the diabetic state, but that the diabetic state may depress or even completely abolish the production of the contra-insular hormone of the pituitary; and, although the pituitary may return to normal from the effect of the injection of exogenous insulin, this does not cause any increased production of endogenous insulin on the part of the patient, and accordingly does not help the diabetes at all; although it may help the body as a whole through restoring the other hormones of the pituitary to a more normal production. The cause of the diabetes, i.e., a deficiency of pancreatic insulin, still remains unaffected by these changes of the pituitary.

PREGNANCY

In pregnancy there is a hypertrophy of several of the endocrine glands, especially the pituitary and thyroid (Aschheim, Stander). This physiological hypertrophy of the pituitary increases the production of Lucke's hormone and brings about a physiological glycosuria which is pronounced in many cases of pregnancy. If there is a preexisting diabetes or a hereditary predisposition to the disease, the diabetic symptoms become more severe on account of this pituitary factor. Reciprocally, the diabetic state, unless it is thoroughly controlled with insulin, depresses the necessary physiological excess of production of all the pituitary hormones, which are needed for the growth of the fetus and the extra metabolism of the mother. This, in a way, accounts for the many dead babies borne by diabetics who are not thoroughly treated with insulin. On the other hand, it has been noticed that extra large babies are borne by diabetics when the insulin is supplied liberally, since this keeps down the hyperglycemia which otherwise diminishes the supply of pituitary hormones. So that in pregnancy also we see the reciprocal relations between the pituitary hormones and the hyperglycemia of diabetes.

In conclusion, I wish to add a clinical fact noted by Pitfield⁶, showing how the giving of insulin may result in the increase of the growth and sex hormones of the pituitary even in non-diabetics. He records the case of a young married woman of thirty-two who was much underweight and very asthenic. She had never had any sexual feelings

(Concluded on page 240)

A Biochemical Approach to Colitis

• Max Trumper, Ph.D., Philadelphia, Pa.

COLITIS—a term that covers a multitude of ills. It forms a convenient catch-all for many bowel complaints which are not classified more exactly because there is little agreement as to their cause and cure. Many authors include among its common symptoms inflamed bowel, spastic or irritated colon, diarrhea—intermittent or continuous, sometimes alternating with constipation, excess of mucus, loss of blood—followed by anemia, emotional instability, visceral neurosis and general nervous manifestations. In such a group of disorders of the colon with an unending and shifting symptomatology there is little wonder that the therapy up-to-date has been disappointing. Kruse¹ has stated: "There still remain chronic constipation and intermittent diarrhea to plague, confound and divide the profession. These complaints represent by far the greater proportion of chronic bowel disorders that occur without any evidence of definite pathologic lesions of the mucous membrane."

In addition to the above symptoms so-called colitis produces disturbances of the acid-base equilibrium, dehydration, demineralization, conditions approaching deficiency diseases—all of which disturbances come within the field of the biochemist. It is my purpose, therefore, to review briefly mineral metabolism as a whole, and its relationship to water-balance and the acid-base balance in the individual whose symptomatology simulates or is actually that of colitis.

The non-combustible residues, better known as the mineral elements, constitute but 5% of the body weight but their importance is now demanding the attention they have long deserved. The many buffer mechanisms of the blood system, the phosphate system, hemoglobin, the plasma proteins and the chloride shift make possible a most delicate balance between the acid and basic ions in the blood and tissues. In maintaining this balance the lungs are of major importance in eliminating practically all volatile carbonic acid. The kidneys are of equal importance in disposing of the non-volatile or fixed acids in the form of chlorides, carbonates, phosphates and sulphates. The gastro-intestinal tract is of less immediate importance in the maintenance of acid-base balance under normal physiological conditions.

The amount of fluid normally secreted into the digestive tract each day is from 7500 to 10,000 cc., which is three times the daily fluid intake. Normally, nearly all of the secretions poured into the digestive tract in the form of saliva, gastric juice, pancreatic and intestinal juices are reabsorbed as well as some of the bile constituents. Apparently the available water of the gastro-intestinal canal is conserved and not wasted; the excess is of course eliminated by the kidneys. A fact not generally recognized is that water is absorbed from the in-

testines considerably faster than the rate of its excretion via the kidneys. Ordinarily thirst is the natural consequence of water deprivation. It is induced partly by the dryness of the pharyngeal mucous membrane and also by the dryness about the nerve endings in the posterior part of the tongue. Frequently individuals suffering from protracted or intermittent diarrhea become accustomed to a dry mouth with an insufficient water intake because the bitter taste in the mouth obscures the feeling of dryness. Since water loss is associated with a loss of salts it is interesting to note that Mackie² reports that in 75 cases of chronic ulcerative colitis 63% showed evidence of deficiency states despite the fact that these patients had the advantage of a balanced diet. He states: "Alterations in the mucous membrane of the tongue have been the most common of the abnormal manifestations. If progression occurs then a profuse glossitis develops in which the anterior portion of the tongue becomes inflamed, red and often tender." Thus one readily understands why these individuals fail to drink sufficient water to compensate for the loss from the large colon. It is known that hypotonic salt solutions have a diuretic effect and, since these individuals already suffer from a too rapid passage of food through the intestinal tract, they are inevitably headed for dehydration, mineral deficiency and malnutrition. These results would be more obvious were it not for the tendency of the body to conserve the mineral elements to some extent, especially so in the case of sodium and chloride ions as originally demonstrated by the classical studies of Benedict on a fasting individual. More recently Mackie and Pound³ have reported frequent abnormalities of the small intestine producing defective absorption in twenty-nine of their thirty-seven cases of chronic ulcerative colitis. Obviously there is need for mineral therapy of at least isotonic concentration so that both the water and salts may be retained.

On the subject of such therapy I shall be explicit and call attention to the value of the waters of Saratoga Springs in supplying the mineral salts in quantity and distribution well suited to normal body needs. The most common inorganic constituents of animal tissues are sodium, potassium, phosphorus, calcium, iron, chlorine, sulphur and magnesium; all are present in Coesa and Geyser waters with the single exception of phosphorus. In addition these Saratoga Spring Mineral Waters contain barium, bromine, strontium and lithium. The above mentioned minerals which are widely distributed in foods are sodium, chlorine, phosphorus, potassium, sulphur and magnesium. Ordinarily physicians and biochemists do not concern themselves as to their possible deficiency. But in these so-called colitis cases it is important to furnish them with a liberal

supply of minerals and not to depend too much on diet. Too often the minerals originally present in vegetables are lost through draining off the water in which they are cooked. Vegetables should be cooked with a minimum of water and that carefully conserved and poured over them in serving. In addition to the above-mentioned minerals these mineral waters contain the essential elements iron, calcium and iodine—the lack of each of which gives rise to a deficiency disease or specific pathology. Coesa water contains 12.6 grams of minerals to the liter while Geyser water contains almost 8 grams of minerals to the liter. The former is definitely hypertonic and the latter slightly hypotonic—by mixing various proportions the physician can in each case prescribe the concentration as well as the dosage. Individuals who drink Coesa water know that it does not relieve their thirst unless they subsequently drink plain water, whereas Geyser water not being hypertonic does satisfy one's thirst. It may be well to mention here that Drs. Baudisch and Davidson of the Rockefeller Institute report "the presence of iron salts in complex form of catalytic quality and apparently identical with the form in which iron salts exist in human blood, all the reactions of the well-known blood tests being given by Saratoga waters."

In recent years clinicians have become fully aware that in excessive vomiting the loss of chlorides and its complications is to be taken seriously, and that in extensive sweating the chloride loss can approximate the chloride in the urine. In diarrhea large amounts of potassium, sodium and particularly chlorine are lost. With the loss of considerable quantities of water there is a parallel loss of the monovalent ions inseparably associated with tissue hydration. Also it is these very electrolytes which are essential to the maintenance of the normal osmotic pressure and the acid-base equilibrium of the blood and tissues. One of the complications of the dehydration is acidosis which is due to a primary deficit in alkali which have been lost from the colon. Another complication of the dehydration is the lack of water available for the elimination of nitrogenous end products by the kidneys and their accumulation in the blood and tissues. There is increased katabolism of protein and especially so in those cases with fever—which favors depletion of blood proteins and possible malnutrition.

A number of patients with symptoms of colitis have benefited from the drinking of Coesa mineral water. The diarrhea has been controlled, and they have shown a reduction in visceral neurosis, less emotional tension even though the original vagotonia is present, and much less irritation of the bowel. Briefly, they have shown uniformly less bowel distress and are now on friendly terms with themselves.

One patient is a physician who has had colitis for about 20 years and has been under the care of the Mayo Clinic with no relief. At my suggestion he has been drinking Coesa water for the past sixteen months and reports that the Coesa therapy is the only medication outside of opiates

which reduces considerably the pain and discomfort from his bowels and has so advised the Mayo Clinic.

Another patient gave a history of diarrhea—intermittent, spastic colon and visceral neurosis extending over a period of ten years. Roentgenographic examinations revealed the absence of haustral markings of the descending colon, which appeared rigid and lead-pipe-like. Careful dieting and the avoidance of fatigue and emotional tension were at times helpful but the bowel distress was increasing. During the past two years, with now but occasional Coesa therapy, this patient is not bowel-conscious. His stools are no longer difficult to pass and are normal in consistency. Only occasionally is there diarrhea, which responds promptly to the drinking of Coesa. The stools are rich in water and sufficient mineral content to approximate normal physiological conditions. His visceral neurosis has entirely disappeared.

SUMMARY AND CONCLUSION: It seems to me that as in other diseases of obscure etiology, as, for example, convulsions in pregnancy, the biochemist can assist the physician by eliminating a possible hypoglycemic convulsion from being considered as eclamptic in origin;⁴ likewise in so-called colitis cases the biochemist can help the physician to decide whether the patient is demineralized and dehydrated with the aim of preventing a persistent diarrhea or one alternating with constipation from being considered as colitis. To combat effectively the diarrhea may help to clarify some of the present confusion between functional and organic symptomatology and aid the clinician to evaluate more accurately other therapy.

Coesa mineral water should be helpful to patients with ileostomy or colostomy to compensate for the loss of water and inorganic constituents. This therapy is contraindicated in all patients with edema, whether cardiac, renal, or anemic in origin, and in hypertensive and nephritic individuals. In fact whenever any patient develops edema or cardiac distress this therapy should be terminated.

During the past decade the need for roughage has been stressed to make up for the highly refined and processed foods in our diet. Many persons with hyperperistalsis developed an irritated bowel because this food reached the bowel before the completion of digestion. An irritated bowel resulted with some spasticity. Recourse to different laxatives added to the irritation and spasticity. Sometimes bran was used to give bulk and with it a physical irritation was superimposed upon a chemical one. Then the intermittent diarrhea and constipation constituted nature's attempt to get rid of the irritation by vomiting the contents of the bowel. I use the word vomiting with intent because in the ordinary usage of the term the physician is alert to look for the cause. But the explanation of vomiting by bowel has been neglected both by the patient and the physician. Thus there is developed in a patient with no pathology in the beginning, a train of symptoms which in time becomes classified as colitis. Since the frequent and

protracted diarrhea washes out essential inorganic constituents and enzymes which ordinarily are re-absorbed, we have the vicious cycle of putrefaction, irritation both physical and chemical, nervous instability—primary and sometimes secondary—and dehydration, if severe with symptoms of acidosis. These findings with malnutrition, anemia and infection make the treatment of colitis difficult, but I am convinced that the first effective means is the restoration of water and mineral balance by the therapy outlined.

921 Medical Arts Bldg., Philadelphia, Pa.

REFERENCES

1. Kruse, F. H.: The Syndrome of Hypertonic and Atonic Colopathy (J.A.M.A. 103: 1366, Nov. 3, 1934).
2. Mackie, T. T.: Ulcerative Colitis (J.A.M.A. 104:175, Jan. 12, 1935).
3. Mackie, T. T. and Pound, R. E.: Changes in the Gastro-intestinal Tract in Deficiency States (J.A.M.A. 104:613, Feb. 23, 1935).
4. Trumper, M.: Fundamental Biochemical Factors in Pregnancy (Am. J. Ob. & Gyn., Aug., 1930).

Studies in Diabetes

(Concluded from page 237)

and was sterile. Under one month's treatment with 30 units of insulin daily, well buffered with Karo syrup, and much rest in bed, she gained 18 pounds. Later on she gained 7 more pounds and sexual feeling appeared for the first time in her life. These were evidences of increased pituitary function in respect to the growth and sex hormones. And so it appears that when an excess of insulin is present in the system as in this normal non-diabetic patient, an increase of the other hormones of the pituitary occurs; whereas, where there is a deficiency of insulin in the economy as in diabetics, a general decrease of the pituitary hormones occurs and the symptom complex of the disease diabetes results including emaciation, loss of sexual power and nerve reflexes, low blood pressure, thirst from variations in water content and many other evidences of the hypofunctioning of the pituitary, which always results from chronic hyperglycemia.

CONCLUSIONS

1. The anterior pituitary, through the agency of the hormone of Lucke, controls the rise and fall of the blood sugar, which in turn controls the production of the hormone. Hyperglycemia decreases and hypoglycemia increases the amount of the hormone.

2. An excess of the hormone causes (1) an increased output of adrenalin, and (2) a decreased output of insulin, from which action hyperglycemia results.

A deficiency of the hormone causes (1) a decreased output of adrenalin, and (2) an increased output of insulin, from which hypoglycemia results.

3. In normals this reciprocal control is perfect.

4. Certain chronic diseases of the pituitary, as acromegaly or Cushing's disease, produce hyperpituitarism and the diabetic state; while others, accompanied by atrophy of the cells as in Simmond's disease, produce asthenic hypoglycemic states. But these diseases are extremely rare.

On the other hand, diabetic states, originating independently, derange the normal production of the various pituitary hormones. Hyperglycemia depresses the action of the pituitary, lowering the production of the growth and sex hormones, the thyrotropic and adrenotropic, as well as the ovarian and testicular hormones. Hyperglycemia and functional hypopituitarism are coexistent. The most striking fact in this connection is that such functional hypopituitarism, caused by hyperglycemia, is accompanied by an increased output of insulin. The previous deficiency of insulin, due to the preexisting diabetes, is an independent factor.

5. The symptom complex which we call diabetes represents the wide-spread effects which this derangement of the supply of pituitary hormones produces. This is a result, not a cause, of the real diabetes, which is due primarily to a deficiency of pancreatic insulin from antecedent causes, hereditary or acquired, at present unknown.

REFERENCES

1. Review by Russell M. Wilder, Archives of Internal Medicine, Vol. 55, No. 2, February, 1935.
2. Macleod, J. J. R. Lectures, Bulletin Johns Hopkins Hospital, February, 1934.
3. Clark, F. G. Jour. Physiol. 1926, 61, XIII and 576. Ibid. 1927, 64, 229.
4. Best, C. H. Lectures, The Lancet, June 9, 1934.
5. Tuttle, G. H. Mechanism of Insulin (to be published soon in New York Medical Record).
6. Pitfield, R. L. N. Y. Medical Record, April 3, 1935.

Effects of Hyperpyrexia Produced by Radiant Heat in Early Syphilis

The observations of NORMAN N. EPSTEIN and MAURICE COHEN, San Francisco (*Journal A. M. A.*, March 16, 1935), on the effects of hyperpyrexia on the lesions and clinical course of early syphilis indicate that artificially produced fevers of from 39 C. (102.2 F.) to 40.5 C. (104.9 F.) and maintained for a period of six or seven hours do not sterilize the human body of *Spirochaeta pallida*. This is shown by three clinical recurrences that developed after the hyperpyrexia treatments had been discontinued. The fact that the patients who had strongly positive blood Wassermann and Kahn tests on entry showed no permanent change after hyperpyrexia would indicate that the infection had not been greatly affected. In the hyperpyrexia treatments as given in this work, the optimal temperature of 40 C. (104 F.) is not obtained in all the tissues of the body. The temperature of the skin of the uncovered portion of the body, that is, the face, is lower than that of the covered parts of the body at the height of the treatment, and probably never exceeds 39 C. (102.2 F.). Lesions on the face regressed much more slowly than those on the covered parts of the body. Sampson found that the temperature of the venous blood in the median basilic vein rose more slowly than the other tissues and did not exceed 39.4 C. (102.9 F.), even when the oral temperature was 40.7 C. (105.3 F.). In general, the venous blood remained from 1 to 3 degrees C. below the oral temperature. The temperature of the subcutaneous tissue also remained considerably below the oral temperature. The temperature of the intramuscular tissue exceeded the oral temperature by from 0.8 to 1.4 degrees C., and the rectal temperature tended to approach these ranges. The prompt disappearance of *Spirochaeta pallida* from lesions exposed to a high temperature substantiates the view that this organism can be destroyed by temperatures between 40 C. (104 F.) and 41 C. (105.9 F.). If a method could be devised that would raise the temperature of all the tissues of the body to a proper height, the eradication of early syphilis by this means might be accomplished. The authors give a description of a method of inducing hyperpyrexia by the use of blankets alone. Its simplicity and the fact that expensive equipment is not needed should increase the availability of this mode of therapy. The treatment given in this way has been less exhausting to the patient than other methods that they have used.

Simple Sporadic Goiter in Children Under Ten

Report of 832 Cases

• ISRAEL BRAM, M.D., Philadelphia, Pa.

OUT of a series of nearly 16,000 cases of goiter seen and studied during twenty-five years ending June, 1934, we find that 934 or approximately 6 per cent occurred in children under 10 years of age. Of these, 102 were instances of exophthalmic goiter; the balance were cases of simple sporadic goiter. Of these latter cases, 740 occurred in girls and 92 in boys, approximately 8 to 1.

By the term simple sporadic goiter is here implied thyroid enlargements that may be seen anywhere, i.e., goiter not occasioned by endemic or

The characteristics of the simple sporadic thyroid swelling in children under the age of ten may be stated as follows: The goiter is diffuse, of moderate proportions, yielding to the touch, almost never intrathoracic, it is of comparatively recent origin, (weeks or months, occasionally a year or two), often becomes larger and harder under the influence of iodine, and responds promptly to judicious doses of thyroid opotherapy. Pathologically the swelling is either in the nature of hypertrophy, colloid infiltration or both, one or the other predominating.



Simple hypertrophy and colloid goiter in children of 6, 7, 8, and 9 years of age respectively.

geographical conditions. The areas around the Great Lakes and the Northwestern States are commonly designated as endemic districts where great numbers suffer with thyroid enlargements presumably as the result of some etiological factor assignable to the water or soil. We are concerned in these remarks with simple thyroid enlargement occurring sporadically in states close to the Atlantic Seaboard.

DIFFERENTIAL CHARACTERISTICS BETWEEN ADULT SIMPLE GOITER AND SIMPLE GOITER IN CHILDREN

Uncommonly the juvenile pathological characteristics may persist even into adult years. Usually at the approach of the sixteenth or eighteenth year of life, the persisting thyroid swelling begins to present evidences of adenomatous infiltration and often of cystic degeneration with localized nodular masses. As the patient approaches 30, the swelling may become large and asymmetrical with distinct neoplastic characteristics. Also, in course of time, the mass may dip down behind the sternum and produce pressure changes, or it may undergo toxicity, and even malignant changes. These various anatomical and physiological changes are almost invariably avoidable through the interposition of proper medical attention during the early years of the existence of a thyroid swelling.

From the Bram Institute for the Treatment of Goiter and Other Diseases of the Ductless Glands, Upland, Pa.

FEATURES DIFFERENTIATING ENDEMIC AND SPORADIC GOITER IN CHILDREN

There are several features distinguishing endemic and sporadic simple goiter in a child under ten. The endemic type occurs in great numbers; it is often of congenital origin; the cause is apparently some geographical factor; adenomatous and cystic changes are occasionally observed; associated evidence of cretinism and deaf-mutism are observed in approximately 2 per cent of cases; iodine treatment may be partially successful, and surgical treatment may be required in a conspicuous number of cases. On the other hand, the sporadic simple goiter of children is comparatively uncommon; congenital origin is very rare; the etiology is traceable to such individual factors as unhygienic conditions or infections, with heredity as a predisposing factor in about one-third of the cases; adenomatous or cystic changes and evidences of cretinism and deaf-mutism are rare; iodine treatment is commonly a failure and surgery is almost never required.

A note of caution must here be sounded respecting the diagnosis of goiter in well nourished children. An undue layer of adipose tissue presented by the neck over the thyroid area is apt to be construed as goiter and the child may be unnecessarily subjected to thyroid opotherapy. It is usually dis-

covered on careful examination that in these "chubby" children the thyroid is perfectly normal in size.

ETIOLOGY

The predisposing cause of simple sporadic goiter in children under ten is probably an inherited tendency. In at least 30 per cent of cases of this series there was elicited in the history the fact that one or the other parent had been goitrous. Occasionally this inheritance was traceable back to the third and fourth generation. Often, too, the maternal or paternal aunt or uncle had had goiter. In a number of cases the history pointed to the presence of goiter in the mother during pregnancy and to the fact that she had no goiter prior to that time.

In two cases information was given to the effect that the mother prior to giving birth to the child had been a subject of Graves' disease. This is rather paradoxical, for Graves' disease is associated with thyroid excitability and it would be natural to suppose that this characteristic would be transmitted to the offspring. And yet, the children in these cases presented not only a simple goiter, but also some cretinoid characteristics.

Whatever the dietary faults in sporadic goiter, the exciting causal factors cannot be attributed to extrinsic iodine deficiency, since in every case under our observation it was evident that the food ingredients did not lack iodine content, and the water certainly did not present iodine deficiency. Also it was discovered that in nearly every case where the test could be performed the basal metabolic rate was somewhat below normal, indicating functional inadequacy of the thyroid; in 24 per cent of cases infectious foci in tonsils, teeth and occasionally elsewhere were obvious. In many instances there existed such errors as improper feeding, poor hygienic conditions, and other faults inimical to proper growth and development. In the occasional instance the taking of tea, coffee, condiments and the spices presented flaws reflecting the parents' apparent lack of guidance. Often sleep was improper in quality and quantity. In 12 per cent the exciting cause was apparently one of the diseases of childhood, especially measles and whooping cough. In contrast, 291 or 35 per cent of our cases presented no discoverable errors in diet and hygiene nor were there any infections or other tangible etiological factors.

SYMPTOMATOLOGY

In 124 or 15 per cent the patients were clearly undernourished and anemic. As mentioned above, in 198 or 24 per cent of the total there were infections in teeth, tonsils or both, frequent attacks of acute tonsillitis, and varying degrees of inability properly to masticate food. Nervousness, particularly restlessness in bed with or without enuresis, was present in 175, or 21 per cent. In 92 or 11 per cent we encountered the fingernail biting habit which, because of its relation to the ingestion of large numbers of the *Bacillus welchii*, is probably an important etiological factor. Constipation, alone or combined with other factors mentioned, was a dominating condition in 50, or 6 per cent of the cases. In 17, or 2 per cent, there was complicating chorea, and in another 25, or 3 per cent, there were

evidences of allergy asserting itself in nasal and bronchial symptoms.

TREATMENT

As a rule, simple sporadic goiters in children under ten do not respond favorably to iodine medication. Under this drug the thyroid becomes large and tense and may become functionally excited. Iodine increases the colloid content of the thyroid; the thyroid in sporadic simple goiter already contains an excess of colloid; further to increase this factor is to increase the bulk of the already swollen organ and invite pressure phenomena.

The best remedy in these cases is thyroid substance. Here, too, an emphatic note of caution should be sounded, for thyroid can be used with telling benefit and can be abused with disastrous results. Before deciding upon the dosage, it is well, whenever possible, to have the youngster under daily observation for at least two weeks to determine the degree of tolerance toward thyroid medication. While, in general, children of tender age present a relative insusceptibility to thyroid opotherapy, yet the exceptions are too numerous to be ignored. Whenever possible, frequent basal metabolic determinations should be made, and in all cases the weight, heart action, condition of the nervous system and sleep should be observed while the patient is under treatment. For instance, a child of seven may do well with desiccated thyroid in dosage of gr. 1/10 daily. Another apparently similar case may not respond unless gr. i or gr. ii are administered. Also, a child may vary in susceptibility at different times. The average child of seven with a moderate thyroid swelling can tolerate the administration of gr. 1/2 of desiccated thyroid daily until the swelling has cleared up, following which the dosage may be gradually tapered down to gr. 1/4 to 1/10, which may be given for several months to a year or longer in the interest of prophylaxis against recurrence.

The correction of discoverable dietetic and hygienic flaws is of utmost importance. The diet should be characterized by a minimum of animal proteins and a maximum of fruits, vegetables, dairy products and cereals. Many youngsters eat too much meat; this should be materially reduced. In all cases tea, coffee, condiments and the spices are to be forbidden and the child should be encouraged to take the quantity of food required to overcome anemia and undernourishment.

It is not commonly recognized that proper sleep is of quite as much importance to the human animal as is the diet. Even though other factors are equal, the child who does not sleep well or enough will be sick. The tendency toward late retiring should be overcome at once, and instructions should be given relative to the hygiene of the bedroom. Habitual restlessness during sleep may require the administration of such measures as befit the individual case. The administration of thyroid substance frequently overcomes even the most persistent enuresis. Such foci of infection as are discovered in teeth and tonsils must be eradicated as soon as possible.

In the majority of cases attention to these factors and the administration of properly individualized

(Concluded on page 245)

The Vascular Peristalsis Theory of Circulatory Dynamics and Arterial Hypertension

• Edward E. Cornwall, M.D., F.A.C.P., Brooklyn, New York

PLATO says that between knowledge and ignorance lies a region full of opinions. Discussions about opinions are notoriously unsatisfactory. Some opinions, however, are better than others; some have possibilities of graduating into knowledge. Much of our present knowledge began as opinions.

During many centuries the conceptions held of the dynamics of the circulation consisted almost entirely of opinions: most of them were wrong; but some of them contained the germ of truth. The ancient Egyptians knew that the blood went from the heart to the extremities. Plato had a fleeting glimpse of the circulation of the blood. The absolute demonstration of the circulation was made by Harvey three hundred years ago. He predicated, as the motive force of the circulation, the cardiac contractions.

Harvey's conception of the dynamics of the circulation is still generally held. A recent text-book on physiology (Wiggers, 1934) says: "The ventricles pump the blood from the terminal reservoirs (auricles) into the distributing system under an initial pressure sufficient to assure a continuous capillary flow, as well as a return flow to the heart."

This exclusive ventricular systole theory of the dynamics of the circulation has not passed unchallenged. Another theory has been advanced, which during the last three quarters of a century has been occasionally discussed, and in support of which a few observations have been reported.

J. M. Schiff, in 1855, observed "spontaneous contractions of the arteries in the rabbit's ear," which he considered "peristaltic in character." Cited by C. S. Danzer.²

J. C. Sandison, in 1932, said: "Stricker ('65) saw the phenomenon of independent contractions of capillaries in the nictitating membrane of the frog." Sandison also reported the following observations on the circulation in the rabbit's ear.

"The contraction sometimes appears first in the main artery of the ear, which narrows markedly, and may extend in a wave along the arteries and their branches and arterioles until the last smooth muscle is reached, three or four seconds being taken up in the passage of the wave from large artery to arteriole. . . . The narrowing in the different parts of the arteries may be partial or it may be sufficient to block completely the flow of the blood. . . . The smooth muscle cells on the large arteries remain contracted for long periods under certain conditions, while the muscle cells on the arterioles rarely remain contracted for more than a few seconds.

Read before the American Therapeutic Society, Atlantic City, N. J., June 7, 1935.

. . . It will be seen that the arterioles contract at the places where the smooth muscle cells are present, and that the vessels beyond the last cell narrow only to a very slight extent, if at all. . . . When undergoing a contraction it (smooth muscle cell on an arteriole) causes a rapid narrowing so that, in the course of two or three seconds, the lumen may be so constricted that no blood can pass. It remains constricted three or four seconds and rather suddenly relaxes, the relaxation being followed by a rush of blood through the vessel. . . . The periods of relaxation are definitely longer after the partial contraction. . . . The independent contraction of the arterioles (i.e., one vessel being closed at the time that another is open) causes blood to be fed to the veins through the capillaries and vessels in a broken stream. . . . A very slight pulse is usually present in all young capillaries. . . . It is difficult to explain the general pulsation which may occur in veins and capillaries when the circulation is extremely fast, as for example, when the ear has been heated to 38° C. or above. . . . The rhythmic contractions in the arterial walls are more regular at this (38° C.) temperature."³

Lauder Brunton, in 1908, said: "The motor action of the arteries has received less attention; but it is, I think, very important, and is, I believe, the cause of the emptiness of the arteries after death, which so long prevented Harvey's discovery from being made. When working with Professor Ludwig in 1869, he directed my attention to the contractile power of the arteries apart from any nerve connection, and while watching their movements, I have sometimes seen a regular peristaltic action take place, by which the blood was driven forward in the arterioles, just as fecal matter would be driven in the intestines."⁴

R. M. Wilson, in 1918, maintained that "the systemic arteries and veins constitute peristaltic areas similar to the peristaltic areas in the intestines."⁵

M. M. Janowsky, in 1924, said: "Besides the heart, the arteries also take an active part in the carrying on of the blood. . . . The theory of the peripheral hearts, which explains a large part of the phenomena of the circulation, must supersede the old theory."⁶

L. P. Pressman, in 1928, said: "The central heart resists the tiring longer, and through increased activity seeks to compensate for the insufficiency of the peripheral blood motors."⁷

C. S. Danzer, in 1925, reported that after ligation of the bulbus arteriosus of a frog, "the blood keeps moving in the capillaries for five or ten minutes"; and that "in about ten minutes the heart has more than doubled in size."⁸

E. Geraudel, in 1930, said: "To the ventricular action there should probably be added the action of the muscular coats of the arteries."⁹

Le Prince Maurice Villaret, in 1932, said: "The different parts of the circulatory system possess a large autonomy in their often opposed functions."¹⁰

A. Luisada, in 1933, said: "It seems to me logical to accept as demonstrated, the tonic and contractile property of the arteries. It is probable that they constitute an active auxiliary factor of the circulation."¹¹

E. E. Cornwall, in 1932, said: "It would seem in general that the circulation is carried on more easily or more effectively in conditions of low blood pressure than in conditions of high blood pressure."¹²

The *Journal of the American Medical Association*, in 1934, in answer to a correspondent, said: "The statement that there are more than 100,000 miles of capillaries, seems to be conservative."¹³

C. J. Wiggers, in 1934, said: "Each cc. of blood in the capillaries has a surface exposure of 5600 sq. cm. in a dog, and more in a man."¹⁴

J. R. Macleod, in 1935, said: "It has been reckoned that the total circulation time in man must lie somewhere between 1 and 1.25 minutes."¹⁵

E. R. Starling, in 1933, said: "By the time the blood has reached the veins all traces of the heart beat have disappeared, and the pressure has fallen to a few millimeters of mercury."¹⁶

These scattered observations and expressions of opinion suggest a radically new theory of the circulatory mechanics, viz., that a considerable part of the motive force of the circulation is supplied by vascular peristalsis. How much of a claim has this theory on our consideration?

If the generally accepted theory, which predicates as the whole motive force of the circulation the ventricular contractions aided by occasional pressure of contracting skeletal muscles and the respiratory vacuum, has been conclusively proven to be true, then there is no room for any other theory of the fundamental dynamics of the circulation. But if it has not been conclusively demonstrated that the amount of energy which those activities produce in the time required for the blood to be pushed through the vascular circuit, exceeds the amount of the resistance energy which is generated in the same time by the friction of the blood stream moving through the hundred thousand miles or more of vascular tubing, then the field must be considered open for other theories.

The a priori argument for the theory of vascular peristalsis as a motive factor of the circulation rests on the assumption that the exclusive ventricular systole theory has not been absolutely proven; and that the surface contact of the blood in the vascular circuit is so extensive that the friction produced by the moving blood stream creates a resistance which is beyond the power of the ventricular systoles to overcome completely in the time in which it is observed to be overcome, and that, in consequence, an auxiliary force is required.

This a priori argument receives apparent support from the distribution of the muscularization of the

vascular tubulature in its various parts. The muscularization is massive in the heart, abundant in the arterioles, less abundant in the venules, more or less scanty in the larger arteries and veins (which are more fibrous), and apparently lacking or nearly so in the capillaries. The especially abundant muscularization of the arterioles would seem to set the stage for the act of pushing the blood through the capillary sponge.

The argument also receives apparent support from the behavior of the circulation in some clinical conditions. A weakly acting heart with a low arterial blood pressure may be associated with an efficient circulation, while a strongly acting heart with a high blood pressure may be associated with a poor circulation. The action of the heart and the degree of efficiency of the circulation do not appear to be correlated as closely as might be expected on the basis of the old theory.

According to this theory the driving force of the circulatory apparatus is divisible into two major parts, a cardiac part and a vascular part, which act cooperatively and supplementarily.

The theory predicates that if the myocardium should become weakened or the heart should act weakly, the vascular part of the motor mechanism would increase its activity supplementarily. And also, if the action of the heart should become weakened, the proximal arterial blood pressure, which depends on the cardiac systolic vis a tergo, would fall with the lessening of the cardiac force. Here is suggested an explanation of why an efficient circulation is often observed to be carried on in the presence of a low arterial blood pressure.

According to this theory, the vascular part of the motive force of the circulation may be conceived to fail under conditions which lessen the peristaltic power of the vascular musculature. Among such conditions would be inflammatory and sclerotic changes in the vessel walls, mechanical pressure on the walls from the outside, and nervous, endocrine, nutritional and toxic influences which cause spasm, spasticity or atony of the vascular musculature. If there should be diminution of vascular peristaltic power from any cause, how would the cardiac part of the motor mechanism react in attempting to make up for the dynamic deficit? The obvious way for it to do so would be by making the heart pump harder, which would tend to raise the proximal arterial blood pressure. Here we see how arterial hypertension may be connected up with the vascular peristalsis theory. It must be borne in mind that the arterial hypertension here referred to is that observed in the arteries which lie within the more immediate sphere of influence of the ventricular contractions, which is the blood pressure with which we are familiar clinically. The blood pressure in the more remote parts of the arterial tubulature depends, according to this theory, to a certain extent, at least, on the vis a tergo of local vascular activity.

Blood pressure appears as a feature of the mechanism of the circulation. The blood stream moves in the direction from higher to lower pressure. The force that raises the blood pressure regularly acts from behind against resistance in front. In the beginning of the circuit, the vis a tergo is the ven-

tricular systoles. The interposition of the distension and contraction of the elastic walls of the larger arteries changes the intermittent flow from the heart into a continuous flow, but does not affect fundamentally the circulatory dynamics; it adds no new force. At a certain distance from the heart, according to the theory under discussion, the blood vessels take up their share of maintaining the waves of blood pressure on which the circulation depends.

Out of the foregoing discussion arises a suggestion of an answer to the question, why arterial hypertension is produced, viz., that it is produced as an attempt on the part of the organism to make up for a deficit in the motive force of the vascular part of the circulatory apparatus.

The idea widely held, that arterial hypertension is a compensatory condition of the circulatory apparatus developed primarily for the purpose of pushing the blood through contracted arteries or increasing elimination through diseased kidneys, does not harmonize with the conception of the circulatory dynamics belonging to the theory under discussion. The explanation of the arterial hypertension observed in chronic nephritis, according to this theory, might be something like this: that poisoning of the vascular musculature by retained body waste and toxic material which the kidneys should have eliminated, lessens vascular peristaltic power; and that the organism in consequence attempts to make up for this deficit in circulatory force by increasing the systolic action of the heart, thereby raising the arterial blood pressure in the proximal reaches of the vascular circuit. This theory also suggests an explanation of the difference between the so-called malignant and benign types of arterial hypertension, viz., that the former is due to factors which make the deficiency in the peristaltic power of the blood vessels a permanent one, while the latter is due to transient conditions impairing vascular peristalsis.

The foregoing discussion has dealt largely with speculation; science demands objective proof. Speculation, however, has a place in science; it may reveal profitable lines of investigation. Confucius says: "Learning without thought is futile." He also puts a check on speculation by saying: "Thought without learning is dangerous."

Interest in the vascular peristalsis theory of circulatory dynamics has persisted for a considerable number of years, in the face of a discouraging attitude toward it on the part of the scientific world generally, which is strongly committed to the exclusive ventricular systole theory. Recently this interest seems to have increased; medical literature of the last few years reflects the fact that this theory is being studied in America, England, France, Italy, Germany and Russia.

The final decision on this theory waits on the future. If it is true, it will be proven so eventually. If not, it will add one more exploded theory to the many which strew the pathway of advancing science. Considered as an opinion, it appears to be an opinion with a strong a priori support.

REFERENCES

1. C. J. Wiggers, *Physiology in Health and Disease*, 1934, p. 509.
2. C. S. Danzer, The Peripheral Vascular Mechanism, *Annals of Clinical Medicine*, 1925, Vol. 3, p. 144.
3. J. C. Sandison, Contraction of Blood Vessels, and Observations on the Circulation in the Transparent Chamber of the Rabbit's Ear, *Anatomical Record*, 1932, Vol. 54, p. 105.
4. Lauder Brunton, *Therapeutics of the Circulation*, 1908, p. 5.
5. R. M. Wilson, *The Hearts of Man*, 1918.
6. M. M. Janowsky, Kleinische Beiträge zur Lehre des peripherellen arteriellen Herz, *Zeitschrift für Klinische Medizin*, 1924, Vol. 98, p. 217.
7. L. P. Pressman, Zustand des Herz und Gefäßsystems bei verschiedenen Graden der Ermüdung, *Zeitschrift für Klinische Medizin*, 1928, Vol. 107, p. 533.
8. C. S. Danzer, Observations on the Extracardiac Circulation, *Proceedings of the Society of Experimental Biology and Medicine*, Vol. 22, p. 217.
9. E. Geraudel, *Mechanism of the Heart and Its Anomalies*, (Translation by Bishop), 1930, p. 79.
10. Le Prince Maurice Villaret, Circulations Regionales et Aniseries Vasculaires, *Journal des Praticiens*, 1932, May 28.
11. A. Luisada, le Arterie nel Circolo Sanguigno, *Cuore e Circolazione*, 1933, Vol. 17, p. 525.
12. E. E. Cornwall, A Problem of the Circulation, *Medical Journal and Record*, 1932, Aug. 3.
13. *Journal of the American Medical Association*, 1934, Vol. 102, p. 1912.
14. C. J. Wiggers, *Physiology in Health and Disease*, 1934, p. 511.
15. J. R. Macleod, *Physiology in Modern Medicine*, p. 205.
16. E. R. Starling, *Physiology*, Third Edition, p. 925.

1218 Pacific Street.

Simple Sporadic Goiter in Children Under Ten

(Concluded from page 242)

doses of thyroid substance result in prompt recovery. In a large percentage of cases perfect results occur within several weeks of this attention; in stubborn cases, six months to a year may be required to effect recovery. In all cases, upon the completion of recovery, it is best to follow up the patient for a number of years—be the visits to the doctor ever so infrequent—in order that the growth process and establishment of menstrual function may not be associated with a renewal of thyroid swelling. Thyroid protection is a very simple matter; all that is necessary in the average case of this sort is continued guidance of the individual habits of life and the administration of proper doses of thyroid substance.

CONCLUSIONS

1. Out of a series of nearly 16,000 goiter cases observed in the past twenty-five years, 832 were instances of sporadic simple goiter in children under 10 years of age; 740 occurred in girls and 92 in boys—approximately 8 girls to 1 boy.

2. The etiology of the average case of sporadic simple goiter in children appears to depend upon improper dietetic and hygienic habits, focal and general infections and a singular inability of the thyroid to meet the bodily requirements of growth and development. In approximately 30 per cent of cases there appears a hereditary predisposition.

3. The most valuable medicament is thyroid substance under proper guidance in dosage indicated by individual requirements. The elimination of discoverable etiological factors and the correction of undernutrition and anemia make for permanency of recovery.

1633 Spruce Street

Galactose tolerance test is important in the diagnosis of liver disease.

Correspondence

A Reply to Dr. Charles H. Goodrich's Article on Compulsory Health Insurance

To the Editor of the MEDICAL TIMES:

The article printed in the MEDICAL TIMES of July, 1935, by Charles H. Goodrich, M.D., on the Consequences of Compulsory Health Insurance, was well written, but the doctor misquoted several facts, as I will attempt to prove. Anyone who is not aware of the present economic status of the medical practitioner would offhand be greatly inspired to work against any compulsory health insurance legislation after finishing Dr. Goodrich's article. On the other hand, those of the medical profession who have given quite some thought to this problem would take an exception, and I am one of those who feel that many exceptions must be taken.

A survey made some time ago estimated that about 135 physicians are needed to meet the need of an average population of 100,000. There are now about 126 physicians to 100,000 inhabitants in the United States, therefore from these statistics we certainly have not too many physicians in this country. In spite of these statistics, the majority and perhaps two-thirds of the physicians in the United States are finding it difficult to merely exist, forgetting the term *live*; and why is that condition prevailing and perhaps getting worse? Can you give a logical answer?

Why is it that the real facts are never exposed by the profession and leaders? Do you know how many physicians are employed by the United States Government, by state, city and county Gov'ts., by insurance companies, department stores, and other industries, and that these physicians receive a good salary and many continue to do private practice? There must be quite a large number of such physicians employed.

These physicians are not interested in any economic change and the reason is self-evident; because if they would dare to say something against their employers' interest, they would be asked to resign or be discharged, and you know that these are true statements of fact.

Dr. Goodrich feels that if we had compulsory health insurance physicians would have no desire to do research, or take postgraduate courses. I desire to bring a very important point before you, and that is, if when a physician is ready to open his office he should not have the mental worry as to where he is going to get his next dollar to pay his rent, etc., you can be absolutely certain that he would really practice medicine and not merely make calls. He would take postgraduate courses and do his best to know what is to be known in his chosen field. As conditions have been the past few years, he can't afford to pay for postgraduate courses.

Dr. Goodrich states that under compulsory health insurance we would be forced to prescribe only such remedies as are listed in a book of regulations. You know quite well that this kind of prescribing is and has been in existence for many years, such as one finds at the Veterans' Bureau, state hospitals, government hospitals, and even at local hospitals, so why raise this question?

The question is asked by Dr. Goodrich, what would be the attraction for future physicians if compulsory health insurance were in force? At least the young physician would not be forced to spend a few years in hospitals, unable to earn enough for a package of cigarettes, and when his internship was completed and he was ready to open an office, he would not meet with the discouraging circumstance of not being able to earn a living as an ordinary worker, not taking into consideration his investment and hardships before he reached the stage when he could open an office.

I could go on and on and show you, and many others like you, the many advantages to the physicians if some sort of a compulsory health insurance plan could be agreed upon by the medical profession and then sponsored by the Federal Government and by state, city and county governments, but controlled by the medical profession.

In closing I want to state that unless the medical profession agrees upon some definite plan whereby all

medical practitioners will be able to earn a living; secondly, make arrangements whereby all practicing physicians should be able to send their patients to all hospitals and treat them there; thirdly, do away with closed staffs; fourthly, not permit physicians to hold more than one good position; fifthly, regulate the O.P.D. and all hospitals where patients are treated gratis, we will not get anywhere. Unless the above is done, and done quickly, the politicians will clean house for the medical profession and make us swallow a plan to suit themselves.

I hope that you will not feel offended after reading my comment. My purpose in writing my reply is in the interest of the general knowledge of the medical profession. I was born and bred in New York City on the East Side and have been living in Brooklyn, N. Y., for twenty years, and my parents and brothers are still living in Brooklyn, New York. I am a 100% United States citizen and good American.

BERNARD ZUCKERMAN, M.D.,
978 Blue Hill Ave.,
Dorchester, Mass.

July 12, 1935

A Sydney Smith Is Still Needed

To the Editor of the MEDICAL TIMES:

It is my opinion—perhaps a foolish one—that that rare wit, Sydney Smith, needs no introduction to the readers of the MEDICAL TIMES; but if it so happens that a small minority of the readers are still walking in Egyptian darkness as regards Sydney Smith's superior qualities as a philosopher, as a wit, and as a keen observer of the foibles of mankind, the sooner they apprise themselves of what he really stood for, of the indestructible dent that he made below the surface of the social conditions of his day, the better equipped they will be to hold their own when they are assaulted by the medical nitwits of today promulgating the high and mighty virtues of a new drug that to their obliquity has all the virtues of a panacea. In a letter to his son-in-law, Dr. Holland, written in June, 1835, Smith's effulgent wit runs as follows:

"We shall have the greatest pleasure in receiving you and yours; and if you were twice as numerous, it would be so much the better.

"Illness must be peculiarly disagreeable to the Duchess of Sutherland, as I take it all Duchesses descend when they die, as there are some peculiar circumstances in the life of that lady that will certainly not occasion any exemption in her favour. The defunct Duke must by this time be well informed of her infidelities and their first meeting in Tartarus will not therefore be of the most agreeable description.

"I shall be in town on Tuesday, the 23rd, and, I hope, under better auspices than last year. I have followed your directions, and therefore deserve a better fortune than fell to my lot on that occasion. Sir Henry Halford is the Mahomet of rhubarb and magnesia—the greatest medical impostor I know.

"I am suffering from my old complaint, the hay-fever (as it is called). My fear is of perishing by deliquescence—I melt away in nasal and lachrymal profluvia. My remedies are warm pediluvium, cathartics, topical application of a watery solution of opium to eyes, ears, and the interior of the nostrils. The membrane is so irritable, that light, dust, contradiction, an absurd remark, the sight of a dissenter—anything, sets me a sneezing, and if I begin sneezing at 12, I don't leave off till two o'clock—and am heard distinctly in Taunton when the wind sets that way, at a distance of six miles. Turn your mind to this little curse. If consumption is too powerful for physicians, at least they should not suffer themselves to be outwitted by such little upstart disorders as the hay-fever.

"I am very glad that you married my daughter, for I am sure you are both very happy; and I assure you I am proud of my son-in-law.

"I have ordered a Brass Knocker against your coming and we have a case of chronic bronchitis next door—some advanced cases of dyspepsia not far off—and a considerable promise of acute rheumatism at no great distance—a neighbouring squire has water forming on the chest, so that I hope things will be comfortable and your visit not unpleasant.

(Concluded on page 251)

Important Phases in the Management of Injuries of Interest to the General Practitioner

• I. Arthur Stoloff, M.D., New York, N. Y.

I AM very happy to have the opportunity of presenting to you my views concerning a subject rich in meaning, namely, that of Industrial Surgery. I realize that with the advent and growth of the recognition of a relationship between the state and industry, grave and serious problems have been presented. For a long period of time, the public and the physician were concerned only with the economic and humane relationship of the state to its industrial inhabitants. Human life with its complexities began a long time ago to become cognizant of the fact that the state owed a duty and obligation to the men engaged in its hire. It is needless to recount here the political concepts with their widely divergent views as to the right of the state to fix the liability of employers, and the power to force upon them regulatory measures that would inure to the benefit of the employee, if he was injured in the service of his employer.

It is my province to attempt to focus in your minds the grave responsibility that you have with respect to the legal privileges of the industrial worker whom you are treating, and who comes under your observation immediately after the accident. A neglect, lack of care, lack of prudence, failure to adhere rigidly to every aspect of the case may in its ultimate end, when compensation is to be fixed by the State Department of Labor, not only be gravely detrimental to the patient but to his immediate family.

I approach the subject with a distinct satisfaction in the realization that every avenue of procedure in Industrial Surgery has not only actually come under my scope, but has also been experienced by me.

Upon the surgeon frequently rests the responsibility to render an unbiased opinion that must lead to an equitable settlement to the satisfaction of the Referee, the Carrier, and the Patient. It would not be amiss before entering into the very accident itself and treatment, to touch lightly upon the introductory history which in itself is essential to an understanding of the case.

Three very important factors must be considered before we can satisfactorily take up such outstanding groups as head injuries, hand injuries, hernias, and sacro-iliac disabilities.

These are, namely:

1.—Case History.

2.—Diagnosis.

3.—Treatment.

1.—*Case History*: This history must completely divulge every conceivable act prior to the accident. It must definitely establish consequent steps to be

taken. The history of the patient should include the date and hour of injury, the nature of the agent which produced the trauma, the position of the patient when he was injured, and whether by direct or indirect force, description of the accident, history or evidence present of preexisting injury or disease, the presence and amount of pain or numbness and the radiation of this pain, and the occurrence of any trauma not due to the injury itself. A statement must be made as to whether or not a tourniquet was applied, and what the nature of the original dressing was; discoloration and swelling should be described; secondary hemorrhage should be recorded; a careful inquiry should be made as to the presence of suppuration, the existence of fracture and, if present, the character and management of it should be ascertained.

Furthermore, if a neurological condition is present, details should be obtained as to the progress. The presence of subjective disturbances such as pain and paresthesia and the date of appearance should be determined. Objective disturbances such as anesthesia and hyperesthesia which have been noted by the patient should be described in detail. The evolution of trophic, vasomotor and secretory disturbances and the progress of muscular atrophy should be noted. The color of the skin, the temperature of the extremities, the appearance of ulceration or sloughs, and changes in the nails and the hair also should be recorded.

2.—The second point, of equal importance, namely, diagnosis, must definitely establish the pathological sequences that may follow. In order that I may definitely establish such a diagnosis, I herewith illustrate my method of procedure:

(a) *HISTORY*—General Appearance:

Patient appears very apprehensive; walks into the office holding his right arm rigid; he keeps the middle, ring and little fingers of his right hand extended.

(b) *Examination of the Right Forearm*:

There are two scars present. The upper is convex, 1½ inches long and freely movable. The lower is 2 inches long and resembles a "U." The latter scar is adherent to the underlying tissues and is covered with a scab. There is limitation of motion of the right shoulder joint due to alleged complaints of pain. With passive aid he is able to rotate his arm in all directions. Restriction in mobility of the right wrist. Patient resists examination and when his attention is distracted and forcible rotation attempted he shrieks with pain and almost collapses. With passive aid the right elbow can be flexed and extended with ease. There is a difference in temperature between the right and left hand. The right is cold and clammy and there is a weakness in the hand grasp. He keeps the middle, ring and little fingers in an extended position, but when his attention is distracted the fingers can be

Read before the Clinical Society of the People's Hospital, November, 1933.

flexed with only slight discomfort. There is some atrophy of the muscles of the right shoulder due to disuse. Measurements of both arms, forearms and hands are the same.

(c)—General Physical Examination—Patient disrobed:

Head, negative. Eyes: pupils equal and react to light and accommodation. Mouth: gold crowns in the upper jaw and bridge work in the lower. Throat: small cryptic tonsils, elongated uvula and pharyngitis. Neck: no palpable enlargement of glands, no evidence of enlarged thyroid. Heart and lungs negative. Abdominal and cremasteric reflexes present. No evidence of hernia, hydrocele or varicocele. Lower extremities negative for varicosities or other deformities. Upper extremities negative except for condition of the right arm and hand as previously described. Spine, slight postural deformity with a tilting toward the left. No tenderness on pressure over the sacro-iliac synchondrosis or coccyx. No restriction in mobility. Patient is able to bend to the floor and squat with no restriction or complaints of pain.

(d) Conclusion:

In view of the fact that this patient's complaints are subjective and that he simulates organic disturbances, I feel it would be wise to hospitalize and examine him under an anesthetic and also to study him neurologically, as his mental status may be the basis for his complaints.

3.—The third point, and the most important one, concerns itself with the treatment with a definite view to the reestablishment of physiological function, rehabilitation and an earning capacity at the earliest possible moment.

Traumatic surgery presents an ever changing assortment of conditions requiring a versatility observed in no other branch of surgery. A simple fracture of both bones of the leg without displacement may be treated with simple immobilization permitting the early use of physical therapy and early function. Vasomotor exercise, obtained by practising elevation and dependency alternately, will frequently accomplish more than any other physical measure in the relief of lymph or blood stasis. The principles of splintage or braceage of any kind govern the most essential physical means and are designed to make possible the satisfactory application of therapeutic measures. Injuries to the musculo-spiral nerve result very often in wrist drop and, during the process of regeneration, the proper application of a cock-up splint is a desirable feature.

Specific traumatic conditions, requiring the use of physiotherapeutic measures, for the purpose of this discussion may be divided into 5 groups:

1. Fractures and dislocations.
2. Infections and results of infections.
3. Burns.
4. Low back injuries.
5. Sprains and strains.

Perhaps the largest group, and certainly the group which causes the most prolonged disabilities, is composed of fractures. A fracture is too often considered merely a broken bone. It is true that when a fracture occurs the bone is broken, but it is likewise true that no fracture ever occurred, and certainly no fracture with displacement, without in-

jury to parts other than the bone. The surgical treatment can be summed up by:

1. Reduction.
2. Retention.
3. Restoration of function, especially in adjacent joints and soft tissues.

To sum up according to Healy, physical therapy in traumatic conditions is indicated:

1. In fractures and dislocations:
 - (a) Early to relieve pain and spasm.
 - (b) To promote absorption of extravasated products.
 - (c) To improve muscle tone and range of motion in joints.
 - (d) In later stages to hasten calcification or decalcification.
2. In infection and the results of infection:

To hasten absorption of by-products of inflammation, improve motion in joints, soften scar tissue and lessen fibrosis.
3. In burns:

For hastening local coagulation, lessening pain and stimulating granulation and epithelialization.
4. In back injuries:

To promote absorption of extravasated blood and lymph, thereby lessening pain, improving muscle tone and activating joint motion.
5. In peripheral nerve injuries:

To maintain nutrition, stimulate regeneration and improve muscle tone and function.
6. In sprains and strains:

Lessening blood and lymph stasis, promoting early active motion.
7. In bursitis, myositis, synovitis and tenosynovitis:

For the removal of waste products, sedation and promoting early function. Physiotherapy is contraindicated:

 1. Where other medical or surgical procedures have proven superior.
 2. After the patient can do what the therapeutic measure is aimed at helping him perform.
 3. Before an adequate examination, both clinical and laboratory, has revealed the pathology present.

Head injuries, hand injuries and hernia are the three most important conditions allied to and associated with trauma.

1. *Head Injuries:* One-third of all head injury cases seen in Industrial Surgery fall into a group of minor injuries. Perhaps there is some temporary loss of consciousness, but the patients are strong individuals and to them such a condition is of more or less trivial importance. As soon as the lacerations, if any, are healed, the patients are ready to resume their work. With these we have no further interest except to call attention to the fact that a strong, robust individual who receives a minor injury to his head, with no actual injury to the brain tissue, almost always returns to work within a short lapse of time.

On another side we have that group of patients, which constitutes perhaps another third of the sum total, who receive a perfectly obvious total perma-

ment disability, which is so recognized by the attending physician and by the Department of Labor and Industries. This group of cases does not interest us in the present discussion.

The remaining third is that group of patients who, after a period of time, do not adjust themselves to their present condition. The factors involved in this failure of readjustment are, of course, first of all the injury itself. The more severe the injury without total disability, the easier it is to observe physical findings which will correspond to the subjective symptoms. This constitutes the upper margin of disability in this particular group; while the true malingerer, the man who feels that the state owes him a living and uses a head injury merely as a subterfuge, will be found at the other end of the list. A great many cases are found between these two extremes and the factors which might be noted as contributing somewhat to their inability to readjust are: suggestion on the part of the doctor, the relatives, or other patients, particularly those suffering from a similar injury, perhaps of a more severe degree; an unstable or nervous temperament, which often leads to failure of readjustment, even though the injury may be very slight and the healing excellent; last, repeated injuries of the same character to the same individual, each causing a more lasting impression on his mental processes.

In the examination of head injuries, we should take into consideration the patient's age, date of injury, character of the injury as to consciousness or unconsciousness, time in hospital, time elapsing between the injury and the examination, time out of work, subjective symptoms, and cranial nerve and general neurological examination. In severe cases ventricular studies including cerebrospinal fluid and pressure, Wassermann, x-ray and ophthalmoscopic examination should be conducted.

Dr. A. Wise Hammer, formerly Zone Surgeon of the United States Fidelity and Guarantee Insurance Company, states "there is much yet to be done, much to be systematized, much to be agreed upon in these cases. What would appear at least as an approach to the solution of this vexatious problem would be the selection of well paid medical commissioners, men skilled in industrial medicine and surgery and equally capable medical examiners, well grounded in law and justice, men who know and understand decisions of various State Boards and Courts, and who know how to interpret human character, especially from the angle of human frailty. Such men, besides possessing a thorough knowledge of their profession, would be versed in medicolegal decisions and opinions and in no small way contribute to the welfare of the body politic by a keen insight into human psychology."

Dr. George W. Swift of Seattle, Washington, remarks relative to head injuries, "Men who are constitutionally psychopathic to begin with, cannot be permitted to enter the hazardous occupations where the slightest injury will bring about claims for complete and total disability." Perhaps this is looking far into the future but already large companies, such as the Standard Oil Company, for instance, the United States Steel Corporation, and even many of the chain stores, are insisting upon physical ex-

aminations at the time of employment and rejecting all those whose temperament unfits them for positions of a certain nature. Industry must assume a tremendous burden which will include taking care of the psychologically unfit, as well as the malingerers in the final summing up of their compensable cases.

2. Hand Injuries:

The immediate treatment of injuries to the hand is determined by the extent of the injury. Failure to make a correct diagnosis before operation leads to improper treatment.

(A) FOREIGN BODIES:

Every surgeon who has had experience with the removal of foreign bodies from hands or feet, or other parts of the extremities, realizes the difficulties which in one case or another will present themselves. The object is usually small, imbedded in soft tissue, but easily moveable from its original situation by manipulation, pressure, or squeezing. At times it is of a dark color, so that a drop of blood in the operative field may obscure it entirely. Foreign bodies in the muscle tissue may do little harm if no infection takes place. Those situated in or near tendons or ligaments of the hand or fingers are painful and interfere with the movements of the hand. Blood vessels, nerves or tendon sheaths can be permanently injured if they are penetrated. Many foreign bodies are best left *in situ* if there is no infection present. The first and most important requisite to speedy removal of the foreign body is a knowledge of the exact location. When a small foreign body penetrates the skin and enters the deeper structures, the point of entrance is so insignificant that occasionally it is indistinguishable from neighboring scratch marks which are numerous on the hands and fingers of industrial workers. The patient may not know the exact point of entrance, and the offending object may be located some distance from the suspicious point. Our experiences have taught us that foreign bodies should be located by a mark on the skin, or by two needles crossing through small portions of the epidermis of the skin and a penetrating needle to the deeper structures. X-rays should be taken, anterior, posterior and lateral views and stereoscopic views, as the depth and location are very misleading. Needles, bullets and small objects are best removed under the fluoroscope.

(B) GLASS CUTS:

Glass cuts usually cause excessive bleeding and sloughing wounds if a fragment is not removed in its entirety.

(C) SUPERFICIAL INJURIES:

Superficial injuries include those with loss of skin and subcutaneous tissue. In some of these, particularly the cases due to crush-injuries, it is only possible to excise the obviously necrotic tissue and hope the remaining tissue, which looks friable when first seen, has not been hopelessly injured. In

others, however, where there is a clean cutting injury, or an avulsion of the sheltering skin, it may be possible to do a skin graft over the raw surface and thus hasten healing, and avoid sacrifice of one or more fingers.

(D) BONE AND JOINT INJURIES:

Principles of treatment do not differ from those involving joints in other parts of the body. If one or more of the metacarpals or fingers are involved, do not use a splint. Immobilize the entire hand, so as to promote rapid healing.

(E) NERVE INJURIES:

If either the median or ulnar nerve, or both of these, have been divided without injury to the tendons, one is justified in doing an immediate suture in certain cases in which, were there extensive tendon injury, immediate operation would not be justified, because of the reason that divided nerves do not retract as divided tendons do, and also because immediate nerve suture gives better return of motor function. If possible, unite by an end to end suture.

(F) PENETRATING WOUNDS:

Those wounds in which virulent organisms such as those of gas gangrene and tetanus, the virulent organisms from human and animal mouths, and virulent pyogenic organisms have been introduced into the deeper tissues should never be sutured if infection is suspected. The wound should be left wide open. The importance of giving tetanus antitoxin in every case in which infection with tetanus bacilli might occur needs no especial comment. Penetrating needle and sliver wounds, and particularly wounds sustained during the course of a surgical operation, deserve special mention because they are not uncommon and because they often lead to serious and spreading infection. We know of no way in which such a wound tract may be disinfected. If virulent pyogenic organisms, such as hemolytic streptococci, are carried deeply into the tissues by a needle or sliver, we believe the best results will be secured by immobilizing the affected part, applying a massive warm wet dressing to the upper extremity and keeping the patient at rest in bed. Premature and ill-advised incisions in such cases invariably lead to disastrous results.

(G) TENDON INJURIES:

These should be repaired if seen within the first few hours, but if there is a macerated wound with a possibility of infection, the superficial wound should be surgically treated and the tendon injury repaired at a later date.

The points which we consider of particular importance in the immediate treatment of injuries of the hand are, principally, careful examination to determine the nature and extent of injury; immediate covering of raw surfaces if it can be accomplished; careful discrimination as to which cases should have an immediate operative repair, which

should be allowed to heal and be operated upon at a later date, and which should be treated as gravely infected wounds from the outset; and, finally, when surgical treatment is carried out, whether immediately or later, carefully executed surgical technique with adequate assistance in a clean and well equipped operating room.

3. Burns.

1. Treat the shock.

2. Cleanse the burned area with warm sterile saline and pledgets of soft cotton. If grease has inadvertently been placed upon the burn we prefer to use benzine or ether to eradicate it.

3. Start spray of 3 to 5% tannic acid every hour for about 24 hours to 48 hours, until a brown crust forms over the burned area.

4. Preferably, use no gauze dressings, but have the part exposed to dry heat.

5. As soon as the crust has formed stop tannic acid, and use the baker or Alpine light.

6. After 5 or 6 days, provided no infection has set in under the crust, remove the crust in parts by previously softening with either warm saline dressings or Dakin's solution.

7. After the crust has been removed use any emollient ointment.

8. If skin grafts are necessary, proceed at earliest moment.

My preference in the treatment of burns is horse serum. The horse serum is sprayed upon the burned area with an atomizer. A sterile rubber dam is applied over the burned area and stretched smooth so as not to wrinkle. A bandage is applied to keep rubber dam in place. This process should be repeated twice daily. Within 5 or 8 days a pinkish hue will be present over the burned area. When this appears, conclude the horse serum therapy, and apply vaselin gauze, calendula cerate, boric acid, or camphor.

The advantages of horse serum are:

1. The treatment can be carried out at home.

2. It does not require constant attention as does tannic acid treatment in the first 24 hours.

3. The treatment can be given by the layman.

4. It does not require prolonged stay in a hospital.

5. It leaves less scarring, cicatrix contraction and deformity.

6. The infection can be treated more easily because it is exposed. Its only disadvantage is that it is slightly more expensive than tannic acid.

4. Hernia:

Ever since the establishment of the Workmen's Compensation Law, the question of whether or not a hernia is a result of a specific injury has been the subject of a great deal of discussion by both the medical and legal profession. One of the commonest questions that we are asked to decide is whether a hernia is spontaneous or due to trauma, and whether it is recent or old. After a great deal of experience with this type of abnormality we have arrived at certain conclusions which have definite scientific and mechanical bases. The only difference between the spontaneous and the trau-

matic type is that the former is gradual and the latter sudden. From a clinical standpoint there is one marked difference between the two types. In the spontaneous type, the stretching of the funicular process is slow and gradual and the patient suffers little, if any, pain and discomfort. He often does not know that he has a hernia until he accidentally discovers a swelling. In the traumatic type, on the other hand, the sudden stretching of the upper opening of the funicular process always causes sudden and disabling pain. In most cases this is accompanied by nausea and vomiting. Occasionally the patient gives a history that following the initial pain, after he sits or lies down for an hour or two, he feels better and is able to resume his work. This is not incompatible with a traumatic hernia. However, when a patient claims that his hernia is due to a specific trauma and does not give the history of an immediate disabling pain, he is either grossly mistaken, or is weaving a net of fabrication. The physical signs of hernia as described by Raphael Lewy, the chief medical examiner of the State Department of Labor, are as follows:

1. A sudden pain in the inguinal region on exertion.
2. Pain great enough to make the injured one stop work.
3. The appearance of swelling in the inguinal region.
4. No atrophy of skin at the site of pain and swelling.

Berger has defined the following signs indicative of the probable existence of hernia before the alleged accident:

1. Scrotal and pubic hernias are of large size, about that of an egg, when the accident did not occur more than a year previously.
2. Inguinal hernia, where the external inguinal ring admits the thumb or 2 fingers.
3. Hernias which show the presence of adherent omentum.
4. Traces of changes in the abdominal wall indicating the prolonged wearing of a truss.

To my mind of greatest importance to the operating surgeon in establishing the casual relationship of hernia is, first, the history of a competent injury followed by immediate symptoms of peritoneal irritation, and local symptoms and signs on clinical examination. Second, the surgical operative observations and, third, the pathologic reports.

Kessler reports four instances of hernia in one thousand cases of direct injury. In these, the nature of the injury is usually severe, of a crushing type and associated with fracture of the pelvis. In two of the cases a wheel passed over the pelvis and lower abdomen, causing increased intra-abdominal pressure.

Ribeiro reports 1% in one thousand consecutive cases.

In my experience, in the last few years, during which time I have operated two hundred and twelve cases of hernia, I have never seen a hernia caused by direct trauma. The likelihood of direct trauma is very small. Some of these claims of hernia due to direct injury might hold in the Courts of Law, but not in the Courts of Medical Science.

In conclusion, in order properly to treat traumatic injuries, I hope I have shown clearly that it is extremely important that a very thorough history of the case be taken and recorded, which should include a previous history of traumatic mishaps and occupational diseases with a very complete detailed history of the present injury, stating the facts of the accident concisely and definitely with a notation of the exact time and naming the instrument or tool used in the causation of the accident. Then, the proper diagnosis must be made, either by the physician in attendance or in cooperation with the consulting surgeon. After this is completed, the injury must be very carefully and skillfully treated. The use of x-rays in the diagnosis and treatment must always be considered.

In the administration of first aid, a very important question is whether to hospitalize or not. This must be left to the competent judgment of the surgeon in charge. In the surgical treatment of the condition, one must keep foremost in mind that the pathology must be eradicated, and function brought back to normal with the best cosmetic effect possible. A patient must be treated in a very efficient and capable manner so as to return him to occupational usefulness in the shortest amount of time with the best physical and surgical result, thus eliminating any possibility of malingering, the development of neurosis or psychosis, and aiding in the carrying out of the Compensation Law in a manner agreeable to all the parties concerned.

REFERENCES

1. Kessler, H. H.—Accidental Injuries.
 2. Healy, V. W.—Physical Therapy in Traumatic Injuries.
 3. R. W. McNealy and J. D. Willems, *Amer. Jour. of Surg.*, Vol. xviii New Series, No. 2, Nov., 1932, p. 267, Small Foreign Bodies in the Extremities.
- 25 East 86th Street.

Correspondence

(Concluded from page 246)

"I did not think Copplestone, with all his nonsense, could have got down to tar-water. I have as much belief in it as I have in holy water—it is the water has done the business, not the tar. They could not induce the sensual prelate (Bishop Copplestone—Dean of St. Paul's) to drink water but by mixing it up with nonsense and disguising the simplicity of the receipt. You must have a pitch-battle with him about the tar-water, and teach him what he has never learnt—the rudiments of common sense."

PHILIP SKRAINKA

July 16, 1935.

Interpretation of Roentgenograms in Pulmonary Tuberculosis

HENRY K. TAYLOR, New York (*Journal A. M. A.*, March 16, 1935), believes that from a clinical standpoint, with the aid of the roentgen study, all cases of pulmonary tuberculosis can be divided into two groups: One group has practically no mortality rate and can be considered benign; the other has a high mortality rate and should be considered malignant. The benign lesions run mild clinical courses. Their prognosis is good and requires no active intervention, such as collapse therapy measures. The malignant lesions usually run a stormy course, often metastasize and spread. These are the only types that compel the use of collapse therapy measures. The prognosis in the untreated case is bad. The pathologic mutations observed in serial roentgenograms reveal whether a lesion is benign or malignant. This information aids in determining prognosis and treatment.

Cancer

Department Edited by JOHN M. SWAN, M.D. (Pennsylvania), F.A.C.P.

EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

Assisted by CHARLES WILLIAM HENNINGTON, B.S. (Rochester), M.D. (Hopkins), F.A.C.S., *German Literature Editor*, and UMBERTO CIMILORO, A.B. (Cornell), M.D. (Rome), *Italian Literature Editor*.

Carcinoma of the Pharynx

• Samuel Weinstein, B.S., M.D., Brooklyn, N. Y.

IN this discussion of carcinoma of the pharynx, the intent is not to bring forth anything new or unusual, or to say anything which has not been said before, but rather briefly to recapitulate that which is already known, with the idea of stimulating the interest of the general practitioner in this subject, thereby hoping that he will learn to think of this condition, and so learn to recognize it at a time when there may still be some hope for the patient, either in the way of cure, or relief with a fair amount of comfort for a reasonable time.

The early diagnosis of cancer of the throat is well worthy of a careful consideration. Cancer in this region manifests itself clinically in two forms: First, intrinsic cancer of the larynx in which the symptoms are manifest and localizing; early diagnosis is quite possible and then operation yields enduring results. The second type is a diametrically opposite one as early symptoms are usually absent and when the case first comes under observation it is apt to be advanced. As Sir St. Clair Thomson⁽¹⁾ states, although this renders diagnosis relatively easy, it prevents an early diagnosis. This second group includes malignant disease of the pharynx, and it is this type which concerns us in this paper.

Malignant tumors of the pharynx and the nasopharynx are more common than benign growths. Carcinoma of the hypopharynx, which is commonly known as extrinsic cancer of the larynx, does not directly concern us in this discussion. Carcinoma of the pharynx rarely occurs before the fortieth year; in the nasopharynx, however, it occasionally is seen in comparatively young people.

According to Schreiner and Simpson,⁽²⁾ tobacco, dental caries, and lues are prominent etiological factors in these cases.

Carcinoma of the pharynx is usually of the epidermoid variety. Adenocarcinoma is met with occasionally. The former growth may be situated anywhere on the walls of the pharynx, though the lateral walls are the ones most often involved. It may appear on the uvula, the soft palate, the faucial and the lingual tonsils. The earliest evidence may be that of a definite growth with an indurated base; more often when first seen an ulcer with a hard and irregular edge is already present. The question of induration is most important and must be determined by careful palpation. Cancer of the pharynx may start almost anywhere in the pharynx, but practically all laryngologists agree that it most frequently makes its first appearance in or about the tonsil.

As stated previously, early diagnosis of malignant disease in this part of the body is not a promising subject. However, any new growth in this region, in an adult, should be viewed with suspicion. While innocent growths occur with more frequency than malignant ones in both the nose and the larynx, it is the reverse in the pharynx. The majority of pharyngeal neoplasms, in adults, are malignant.⁽³⁾

Any unilateral thickening or tumor formation should be carefully explored with the finger. If malignant it will be found to be hard, even like cartilage. The early subjective symptoms will be more "throaty" than laryngeal or respiratory. That is to say, speech may be muffled or woolly but the voice and respiration are not interfered

with. Increased secretion, and some difficulty in shifting it, will precede any dysphagia.

Sharp pains develop early, and radiate to the neck, ears, or angle of the jaw. With the increase of the growth, the voice becomes more throaty, respiration is seriously interfered with, there are salivation, great dysphagia, blood-stained sputum, dreadful fetor, septic mouth, marked cachexia, and enlargement of the glands. Attacks of suffocation or hemorrhage may occur, edema may be started in the larynx, and there is rapid wasting, often increased by pain and insomnia.

In making the diagnosis the question of tuberculosis need hardly be considered—a very different matter from that in the larynx. Innocent growths are too rare and too slow-growing to cause any difficulty. The chief differential diagnosis is that which must be made from syphilis. This is done by the aid of history, blood tests and results of treatment. There need be no hesitation in making a biopsy if required.

Unless the diagnosis is made early, according to W. V. Mullin,⁽⁴⁾ and there is prompt response to some form of treatment, the outlook is hopeless. If the tonsil is the seat of the primary lesion and treatment is begun before the surrounding structures are invaded good results may be obtained. Quick⁽⁵⁾ states that when the tongue is involved by extension, the prognosis is reduced by 50 per cent.

We shall now briefly discuss carcinoma of the nasopharynx, perhaps even mention carcinoma of the hypopharynx, and then discuss the treatment of all three regions collectively.

Carcinoma of the nasopharynx, according to Hansel,⁽⁶⁾ is almost invariably located in the fossa of Rosenmüller. Nasal obstruction is not a striking symptom in the early stages, when the usual ones are deafness of the type produced by Eustachian obstruction and local pain. The earliest other symptoms are the result of involvement either of the glands of the neck or of one or more of the numerous nerve structures, intracranial or extracranial, that lie in the immediate vicinity. These include the Gasserian ganglion, the second, the third, and the fourth nerves, the second and the third divisions of the fifth, the sixth, the seventh, the ninth, the tenth, the eleventh, and the twelfth nerves. Gordon B. New's syndrome and Jackson's syndrome are well known and need not be further elaborated upon. The eighth nerve escapes attack, whereas the sixth nerve is the most commonly affected and is usually the first to show evidence of paralysis.⁽⁷⁾

Persistent otalgia without objective signs in the ear; recurring attacks of unilateral seromucous catarrh of the middle ear; and recurring spontaneous hemorrhage are three symptoms of the utmost importance and, when found in conjunction, are almost pathognomonic of malignant disease of the nasopharynx.

Abnormality of the soft palate with edema on it and the adjacent pharyngeal wall appears sooner or later. In more advanced cases the chief local symptom is nasal obstruction. The onset of epistaxis is earlier than in fibroma.⁽⁸⁾

Carcinomata of the nasopharynx are usually fatal in a

(Continued on page 253)

Economics*

Department Editor: THOMAS A. MCGOLDRICK, M.D.

The Hospital Service Plan

THE report of the Committee on Costs of Medical Care disclosed many elements, aside from doctors' fees, which enter into the burden on the patient. One of these elements was the cost of hospital service. Twenty-four per cent of every dollar of the total medical cost was for this purpose. This is in no sense a reflection on hospital management. The high cost of the service itself is one reason for the financial difficulties in which so many of these institutions are at the present time. The advance in medical science and its application have necessitated purchase and installation of expensive equipment. The x-ray and electrocardiograph machines, the respiratory apparatus of Drinker and others, and the general equipment of pathological, chemical and special research laboratories have increased the expenses. The necessary personnel, doctors skilled in special and unusual branches, technicians, nurses and clerical forces were added. Accommodations for these departments and the advancing requirements for training nurses and internes were essential. Extensions, alterations and even erection of new buildings increased the burden.

These increasing expenditures put the service beyond the ability of many patients to purchase. Facilities were abundant but the needy unable to obtain them. Hospitals were becoming more embarrassed financially, patients were deprived of necessary care and doctors were hampered in their service to the people by the lack of necessary scientific aid.

The recent plan whereby a patient by the payment of an insurance premium of three cents a day may secure a great amount of hospital service is well worth trying. It is directed by an incorporated non-profit group, the directors and officers of which receive no remuneration. It is neither new nor untried. In modified forms it has been tried in different towns, states and countries. The form now presented to aid the people of this state has been studied by hospital executives, representatives of organized medicine and men deeply interested in true philanthropic work. It has received attention and action by two sessions of our Legislature, but it is not yet the finished plan agreeable to everybody. Trial will make it more perfect. It secures for the hospital full pay—six dollars a day for every day of service. It secures for the patient, who has paid at the rate of three cents a day for the year, twenty-one days residence in a private ward, with the usual general nursing and medicines, use of the operating room, and routine x-ray and laboratory service. If the patient desires more expensive accommodations he will be given a discount of \$4.50 a day from the cost. If he

needs more than twenty-one days he will receive a discount of 25% from the regular hospital charges—the difference being paid to the hospital from the Fund. The patient also has the physician of his choice in a hospital he and the physician have selected.

More than one hundred hospitals in the metropolitan area have agreed to cooperate. The only reward to them is not from the rates charged one person, but in securing the utilization of existing facilities.

As the patient may choose his physician and his hospital the same right extends to the hospital. At thirty days' notice a hospital may sever its relationship to the plan—or it may refuse its service in certain diseases, or decline the patients of certain doctors.

The plan has nothing to do with the doctor's bills.

There is no provision in the law providing remuneration for the physician in charge, nor for consultants. There does remain the feeling, however, that some payment is more likely from a private patient spending but \$10.00 a year than if that patient had to pay \$150.00 or more to the hospital. The doctor taking care of his patient in a high grade, well equipped institution will have all the assistance that tends to the best scientific work for himself and to the interests of his patient.

The hospital service plan will not solve all the economic questions of the cost of medical care. There are possibilities of abuses on the part of the hospitals, on the part of the doctors or on the part of this Fund. Confidence in the Fund itself is certain from the composition of its directorate, from its non-profit character, and the protection of its charter rights and duties by the State of New York. Experience will correct faults in application that may arise. Even the rate of three cents a day may be increased, decreased, or earn more privileges for the patient. The association of organized medicine with the corporation and with hospital trustees will help solve any irritating problems or seemingly unjust situations that may arise. The Associated Hospital Service is a brave attempt to aid in the reduction of the costs of medical care and as such it deserves the encouragement and support of the profession.

*In the article by Dr. Charles H. Goodrich in our July issue, there was an error in the third paragraph of column 2, page 219, which read: "One of the wisest philosophical remarks in medical economics during recent years was made by the Chairman of the evening, Dr. J. Sturdivant Read, some months ago." The Chairman of the evening was Dr. Frederic E. Elliott and it was to him that the remark should have been credited. The error was made by the editor, not by Dr. Goodrich.

Ed.

very short time and usually end by the erosion of a blood vessel or the patient dies of sepsis.

As mentioned before, carcinoma of the hypopharynx is outside the scope of this paper. We wish to note, however, that the clinical aspects of carcinoma of this region should receive sufficient emphasis. As Leahy⁽²⁾ says, it seems particularly important to bear the possibility of such a growth in mind since an early diagnosis may possibly lead to successful surgical treatment.

TREATMENT

Of course, in a paper of this kind, we do not propose to go into a detailed discussion of technique. Our purpose is mainly to indicate the various methods.

Treatment falls under three heads: (1) surgery; (2) irradiation with radium or Roentgen ray; (3) surgical diathermy.

The surgical outlook is apparently poor in pharyngeal

cancer. Thorough excision of suspicious lesions in the earliest stage will give cures in almost 100 per cent of the cases, while there is no known cure for inoperable cancer.

Beck⁽³⁾ states that the treatment is rarely feasible of surgical attainment, because the patients usually present themselves after the glands have become involved. In not a single instance has he been able to save the patient nor even slow the tide.

Irradiation in some form, either alone or in combination with surgical measures, plays an important part in the treatment of oropharyngeal cancer. Douglass Quick⁽⁴⁾ says that they give radium (at Memorial Hospital) rather than surgery first place in the treatment of the primary lesion and that they have adopted a conservative rather than a radical procedure in dealing with the cervical nodes.

To bury radium emanations in the tumor and to leave them *in situ* is the method advocated by the same author.⁽⁵⁾

(Concluded on page 260)

Contemporary Progress

Editorial Sponsors

MALFORD W. THEWLIS, Wakefield, R. I. *Medicine*
CHARLES H. GOODRICH, Brooklyn, N. Y. *Surgery*
OLIVER L. STRINGFIELD, Stamford, Connecticut... *Pediatrics*
VICTOR COX PEDERSEN, New York, N. Y. *Urology*
HARVEY B. MATTHEWS, Brooklyn, N. Y. *Obstetrics-Gynecology*
HAROLD HAYS, New York, N. Y. *Nose and Throat—Otolaryngology*

WALTER CLARKE, New York, N. Y. *Public Health including Industrial Medicine and Social Hygiene*
CHARLES R. BROOKE, New York *Physical Therapy*
ELLICE MURDOCH ALGER, New York *Ophthalmology*
HAROLD R. MERWARTH, Brooklyn, N. Y. *Neurology*

Pediatrics

(Concluded from page 230, July issue)

Placental Extract in the Prevention and Modification of Measles

C. F. McKhann, A. A. Green and H. Coady (*Journal of Pediatrics*, 6:603-614, May, 1935) note that observations in regard to the placental transmission of immune bodies from mother to infant, and the demonstrable presence of various antibodies in the umbilical cord blood indicate that the placenta contains immune bodies and that placental extracts could be prepared that would increase the "protective reaction" of children to certain diseases. In studies at the Harvard Medical School it has been found that such extracts could be prepared which contained substances that would "neutralize diphtheria toxin, blanch scarlet fever rashes, neutralize poliomyelitis virus, and prevent measles in exposed, susceptible patients." The authors report a special study of the measles protective substance in various fractions of the placental extract. In a total of 1,258 children 1,011 were given various fractions of the placental extract prepared in the Harvard laboratories, and 247 were given a commercial extract. Protection against the disease was obtained in 73.2 per cent. of all the children treated with the various Harvard fractions, and modification of the disease in 21.8 per cent., with 5 per cent. failures; the commercial extract gave 73.3 per cent. protection and 23.4 per cent. modification, with 3.20 per cent. failures. Some of the fractions from the Harvard laboratories gave better results. Thus the T fraction (containing all the globulins) when filtered gave 87.4 per cent. protection and 10.4 per cent. modification with only 2.2 per cent. failures; while another fraction—the R or pseudoglobulin fraction—gave 82.8 per cent. protection and 12.2 per cent. modification, with 5 per cent. failures. Mild local reactions were noted in 23 per cent. of the children and slight reactions in 12 per cent.; severe local reactions occurred in only 2.8 per cent., and severe febrile reactions in only 1.9 per cent. The immunity following the injection of placental extracts is of the passive type and of short duration; the authors suggest, therefore, that outside of institutions, it should be used for absolute prevention of the disease only in debilitated, tuberculous and acute or chronically ill children. Otherwise it is better to modify the disease by the use of the extract by giving it five to nine days after exposure, and thus secure a more permanent immunity.

Suprarenal Gland and Serotherapy in Whooping Cough

O. Barbour (*Archives of Pediatrics*, 52:143-151, March, 1935) reports 192 cases of whooping cough in which desiccated whole suprarenal gland was given by mouth until the disappearance of the cough. In 56 cases this treatment alone modified the severity of the cough and shortened the course of the disease, and no other treatment was considered necessary. In 38 cases, especially in the later stages of the disease, the addition of small amounts of desiccated thyroid gland added to the supra-

renal gland substance was definitely beneficial. In 58 cases non-specific protein therapy was used in addition to the adrenal gland substance, with marked relief of cough and other symptoms in 52 cases. In 40 cases pertussis vaccine was combined with the adrenal gland treatment and proved definitely beneficial in 36 cases. The author's experience has convinced him that "something, whatever it is, in the adrenal gland substance when it is given orally is unquestionably effective in modifying the course and severity of certain cases of whooping cough." And he is of the opinion that by combining the use of the adrenal gland substance (and occasionally thyroid) with some form of protein or vaccine therapy (preferably pertussis vaccine), a marked decrease in the severity and duration of whooping cough can be obtained in 80 to 90 per cent. of cases.

Soy Bean Milk in Infant Feeding

F. Rittinger, L. H. Dembo and G. G. Torrey (*Journal of Pediatrics*, 6:517-532, April, 1935) report a study of results of feeding 205 infants with soy bean milk in a period of three and a half years. Cod-liver oil was added to the soy bean flour from which the milk was prepared, and orange juice was given in addition. In some cases skimmed milk was combined with the soy bean milk in order to increase the protein content. A study of the growth and development of the infants fed on the soy bean milk showed that their gain in weight, general development and resistance to infection were all satisfactory and paralleled that of breast-fed infants and infants fed on carefully prepared milk mixtures. The stool flora showed a high percentage of gram-positive organisms, resembling that of breast-fed infants. Roentgenological studies showed good bony development with few exceptions; in the few cases in which there were "suspicious signs" of rickets roentgenologically, these findings were not confirmed clinically. The soy bean flour and milk were found to contain adequate amounts of vitamins A, B, and D. In some recent formulas wheat germ has been added, however, to increase the vitamin B complex. Soy bean milk was found to be of definite value in the treatment of infantile eczema when there was evidence of sensitization to animal protein. It was also of value in the treatment of constipation in infants, owing to its "roughage" factor.

Congenital Anemia of the Newborn

H. D. Pasachoff and L. Wilson (*American Journal of Obstetrics and Gynecology*, 29:415-424, March, 1935) report 6 cases of congenital anemia of the newborn, including one case in a negro infant; one of these infants died before a transfusion could be given. The others recovered, the milder cases without any therapy. In some cases anemia is noted at birth; in others it appears between the third and the tenth day of life. Pallor is the chief symptom, and vomiting is frequent; the spleen is sometimes enlarged. Diagnosis is made by the blood picture, which shows a hyperchromic anemia of varying degrees of severity. Various theories of etiology have been advanced. The authors favor the theory that the anemia is due to inhibition of the development of the erythropoietic system; the presence of erythroblasts in the blood they consider to be "a secondary response to the anemia rather

than the underlying pathology." Many mild cases of congenital anemia probably pass unnoticed and recover spontaneously. Moderately severe cases with hemoglobin above 30 per cent also tend to recover without treatment; but if the hemoglobin falls below 30 per cent, immediate transfusion is indicated.

Acetonemic Vomiting in Children Simulating Appendicitis

Ertaud and Lucas (*Médecine infantile*, 42:96-102, March, 1935) note that they have seen several cases in children, usually under twelve years of age, in which an attack of vomiting with fever, rapid pulse and abdominal pain suggested an attack of appendicitis, but more careful study showed the symptoms to be due to acetonemic vomiting. There is often a history of previous attacks of a milder type. The authors have noted that in these cases the child is more prostrated than is usual in appendicitis; and there is scanty urine, dry skin and other signs of dehydration. Diagnosis depends upon the absence of local abdominal signs—localized tenderness and muscular rigidity—in the presence of the severe general symptoms, and upon the demonstration of acetone in the urine.

Otology

Electro-Acusto-Testometer for Bone Conduction Tests

M. M. Kafka (*Laryngoscope*, 45:343-345, May, 1935) presents an instrument which is designed to measure and time accurately the most commonly used bone conduction tests—the Schwabach, Rinne and Weber tests. The usual method of performing these diagnostic tests is "by hand;" the blow struck the tuning fork thus varies with each performance; the fork is not held at the same and exactly measured distance each time the test is performed. The patient, during the examination, usually signals the examiner by raising or lowering the hand, which involves perceptible loss of time. With the instrument described, the force of the blow struck the tuning fork is controlled by an electro-magnet, which is operated by the patient himself by means of a push button. The stop-watch of the instrument records simultaneously the actual time the sound is heard through bone conduction; the patient, by the use of another push button, can stop the watch when he no longer hears the vibrations. The mean average of the number of vibrations for normal bone conduction is recorded, so that the tuning fork does not need to be compared to the examiner's ear. The distance that the tuning fork is held from the ear is accurately measured by a steel roll ruler attached to the instrument. The results can be permanently recorded in number of seconds "positive" or "negative" for the Schwabach and Rinne tests. With the use of this instrument different otologists and institutions can record uniform results for bone conduction tests.

A New Drug for the Treatment of the Eustachian Tube and Middle Ear

E. LeR. Wood (*Archives of Otolaryngology*, 21:588-590, May, 1935) notes that various vapors have been used for inflation of the Eustachian tube and middle ear. Most of these vapors increase the vascularity of the mucosa, but no vapor has been available to decrease the vascularity and congestion of the lining of the Eustachian tube and middle ear, when such action was desirable. Since the vapor of benzyl methyl carbinamine (benzedrine N.N.R.) has been shown to shrink and decongest the nasal mucosa, the author has designed an apparatus by which this vapor may be introduced into the Eustachian tube. Simple attachments have been devised by which the standard Eustachian catheter is attached to the ordinary benzedrine inhaler. In this way benzedrine vapor has been used for inflation of the Eustachian tube and middle ear in a large number of patients. It was found that the benzedrine vapor caused no discomfort and that it definitely increased the distending action of air and reduced congestion.

Diagnosis of Acute Suppuration Of the Petrous Pyramid

Curtis Eves (*Annals of Otolaryngology, Rhinology and Laryngology*, 44:97, March, 1935) notes that suppuration of the petrous pyramid is the most recently recognized complication of purulent otitis media. It results from extension of the infection from the middle ear or the mastoid "by way of the cell channels leading into the petrous pyramid." Until recent years most of these cases were found only at autopsy; since 1929 an increasing number of cases of this complication have been recognized clinically. Gradenigo's syndrome is not now considered to be associated with acute suppuration of the petrous pyramid. The chief symptoms of suppuration of the petrous pyramid are a continuous or a recurrent ear discharge (recurring after mastoidectomy); and pain around the back of the eye, in the temporo-parietal region, and sometimes reflected in the occiput of the affected side. This pain is the most characteristic symptom; it occurs as attacks of severe pain, usually at night at first, but later also during the day. Between the attacks the patient is fairly free from pain, but often shows marked nervous irritability. There is usually intermittent fever, above 100° F. as a rule. In diagnosis, a single roentgenogram is of little value, but a series of roentgenograms, beginning with the original mastoid exposure, will show increasing density of the petrous pyramid affected and is of definite value in diagnosis. There may be transitory labyrinthine symptoms, facial weakness, and rarely paralysis of the external rectus muscle, the latter only when the suppuration extends to "the very tip cells of the bone." If there is sufficient drainage through a fistulous opening into the middle ear, the suppurative process in the petrous pyramid may heal spontaneously, otherwise surgical intervention to establish drainage is necessary.

Association of Toxic Deafness With Toxic Amblyopia

F. D. Carroll and P. E. Ireland (*Archives of Otolaryngology*, 21:459-463, April, 1935) report a study of the hearing in 36 cases of toxic amblyopia due to tobacco and alcohol at the Massachusetts Eye and Ear Infirmary. The amblyopia in these cases is of the "island" type, that is, an island of decreased vision in an otherwise normal field. Twenty-one of these patients showed a definite "island" defect of hearing in the audiometer tests. In these cases there was a notch in the audiogram curve at a frequency of 4,096 vibrations per minute; this defect was accompanied, as a rule, by a loss of perception for high tones and a shortening of the bone conduction time. This "island" deafness was usually bilateral; it was not observed in a control group of approximately the same age distribution; and it was "quite comparable" to the "island" defect of vision in these cases of toxic amblyopia. The average loss for the spoken voice in these cases was only 8 per cent., so that in the majority of cases deafness had not been noticed, although some patients showed an evident diminution of hearing. Pathological reports in cases of toxic amblyopia indicate that the site of the ocular lesion is in the ganglion cell of the retina and in the nerve fibers of the papillomacular bundle. The authors are of the opinion that the otological lesion in such cases is in the spiral ganglion cells of the cochlea which are "functionally and anatomically similar." Only postmortem examination can give the final proof.

Influenzal Labyrinthitis Without Suppurative Otitis

A. Brownlie Smith (*Journal of Laryngology and Otolaryngology*, 50:263, April, 1935) reports a case in an infant of five months, who developed an influenzal bronchopneumonia followed by empyema and by a meningitis that caused death. The *B. influenzae* was grown from the pleural sac and from the cerebrospinal fluid. Histological examination of the temporal bone showed a labyrinthitis, although no symptoms of involvement of the labyrinth had been noted in life, which, the author notes, is "not surprising" in so young an infant. There was no sign of middle ear infection. The infection in

this case must have spread from the meninges either along the acoustic nerve or by the aqueduct of the cochlea, or by the blood stream. The evidence in this case appeared to favor the spread along the nerve. Such a complication of influenza is probably more common than is usually thought, as is indicated by the fact that severe and persistent vertigo may follow an attack of influenza, evidently due to labyrinthine involvement, and also that deafness of the inner ear or nerve type is a common complication of influenza. During an epidemic of influenza only a small percentage of cases are treated at general hospitals, where autopsies are more easily obtained and where an infection of the labyrinth is more likely to be recognized. This, in the author's opinion, explains why cases of labyrinthine involvement without middle ear disease in influenza are overlooked.

Friedländer Bacillus Otitis

F. Altmann (*Monatsschrift für Ohrenheilkunde*, 40:513-537, May, 1935) reviews the literature on Friedländer bacillus otitis, tabulating 27 cases; and reports 7 cases of his own. Of the 27 cases reported in literature, 11 were not operated, and 7 of these recovered, 4 died. Of the 16 operated cases 6 recovered and 10 died. Both groups showed a large number of complications; of the 6 operated cases that recovered all showed some complications—2 of them sinus thrombosis. Most of these authors consider Friedländer bacillus otitis an especially dangerous form of middle ear infection. The author's personal experience is not in agreement with this conclusion. Of his 7 cases, only 1 died, and this death was due to a postoperative pneumonia which cannot be attributed to the specific character of the infection. Of the author's cases 5 were operated and 2 were not operated. His cases were characterized by an insidious development, with slight symptoms at onset, and except for the fatal case, by a protracted course; 3 of the cases that recovered showed complications. The favorable results in his cases the author attributes to the fact that all of the patients came under observation relatively early, and that none had any serious general disease. He is of the opinion that these cases should be kept under careful observation, and that the mastoid operation should be done only when there is a definite indication for it.

Rhinolaryngology

Chemical Composition of Exudates from Allergic Rhinitis and Sinus Exudates

C. C. Buhrmester (*Laryngoscope*, 45:347,353, May, 1935) reports a chemical analysis of the nasal secretion from patients with allergic rhinitis and of the exudates from suppurative maxillary sinusitis. The cases of allergy showed a pale, "boggy," edematous nasal mucous membrane and a mucinous secretion containing many eosinophile leucocytes. The cases of suppurative sinusitis had positive roentgenological findings in the maxillary sinus, which was also dark on transillumination; the exudate was aspirated into a syringe through a Dean needle, and showed many polymorphonuclear leucocytes, monocytes, lymphocytes and epithelial cells. Chemical analysis showed that the water content of the nasal discharge in allergic rhinitis is greater than that of the exudate of suppurative sinusitis, while the total solid content of the exudate is about three times that of the secretion in allergy. The ash in the total solid is much greater in allergic rhinitis than in the exudate from sinusitis. The protein in the allergic secretion is less and shows a smaller range than protein of the sinus exudate. The secretions in allergic rhinitis contain more minerals than the exudate in sinusitis. The greatest difference is in the calcium, which averaged 11.3 per cent. in the allergic and 8.73 per cent. in the sinusitis cases. This is due chiefly to the fact that most of the protein in the allergic secretions is present in the form of mucin, which is relatively rich in calcium, while the sinus exudates contain many leucocytes and much cellular debris, which contain little or no calcium. The potassium content in the allergic cases was very constant, while in the sinusitis cases it showed marked

variation. The sodium values were similar in the two groups.

Ionization in Vasomotor Rhinitis

A. R. Hollander (*Archives of Otolaryngology*, 21:448-455, April, 1935) states that it has not been definitely established whether vasomotor rhinitis is a local manifestation of a constitutional allergic state or a symptom of a metabolic, endocrine or nervous disorder. Pathologically it is not a true inflammation but "an edema with eosinophilic infiltration." The author describes his method of intranasal ionization with the positive pole using copper, zinc, or "some other metallic chemical." He has had the best results with a 5/10 per cent. solution of zinc sulphate. After the treatment there is "a grayish coating" over the entire nasal mucosa; this disappears in a few days; a slight exudate forms during the first few days which either loosens, is blown out or can be removed. Patients usually note subjective improvement in a few days. In 10 cases of true vasomotor rhinitis treated by this method during the year 1932, 5, or 50 per cent., have been definitely relieved of their symptoms, and have had no recurrence. Of 7 patients treated in 1933, all have been improved to some degree and 4 are entirely free of symptoms. Of 15 patients treated in the first six months of 1934, 8 have been relieved of symptoms, and the others somewhat improved. In no case has any ill effect of the treatment been observed.

Surgical Procedures in Chronic Atrophic Rhinitis

B. F. MacNaughton (*Canadian Medical Association Journal*, 32:678, June, 1935) notes that whatever the cause of ozena may be, there is an abnormally large intranasal space in this condition, and if this space can be reduced, there is a definite amelioration in symptoms. Any co-existing sinus infection should first be treated before any operation on the intranasal space is attempted. There are two ways in which the reduction of this space may be obtained surgically: (1) By swinging the antral wall toward the septum and holding it in place by means of adhesions between the wall and the septum, and (2) by bringing the septum toward the lateral wall. Lautenschlaeger has devised an operation of the first type, transposing the lateral wall on both sides of the septum; Halle's operation is similar, but done entirely by the endonasal route. The bulging of the septum toward the lateral wall is accomplished by placing inlays under the mucoperiosteum of the septum or the floor of the nose. Many different materials have been used for these inlays, including bone and cartilage. The author has used this method with cartilage implants. He reports 4 cases in which this operation was done; definite improvement has been noted in all, especially in lessening the crust formation and the relief of the fetor.

Electrosurgery in Laryngeal and Pharyngeal Tuberculosis

G. H. B. Terry (*Southern Medical Journal*, 28:509-511, June, 1935) notes that in 1933 he reported 2 cases of pharyngeal tuberculosis which he had treated by electrosurgery. The operation consisted of partial excision and cauterization of the affected area with the high frequency electric current. In both cases relief of pain was obtained; in one case a new lesion subsequently developed on the soft palate, at a time when the patient was severely ill from intestinal tuberculosis which caused his death. In the second case two treatments with electrosurgery resulted in complete healing, where five treatments by thermocautery had failed; the patient left the hospital and could not be traced. As far as the author finds, these are the first cases of pharyngeal tuberculosis treated by electrosurgery. He has since treated 8 other cases of pharyngeal tuberculosis (a total of 10 cases) and 12 cases of laryngeal tuberculosis by this method. Results have been better than with any other method in cases of equal severity. Some of the patients had so little resistance that no permanent benefit of the throat lesions was obtained, but the treatment at least gave temporary relief; many have shown a marked improvement, and "a considerable number" have had complete and lasting relief. The author has previously treated cases of pharyngeal and laryngeal tuberculosis with the thermocautery; but in the

relatively few cases in which he has used the electrocautery he has had better results. Most cases of pharyngeal tuberculosis are "terminal cases," and healing of the throat lesion will not save their lives; it does, however, prolong life, relieve pain, and enable them to take food. Many of the patients with laryngeal tuberculosis, "not already doomed by the extent of their pulmonary tuberculosis," have been saved by the use of the thermocautery; with the use of high frequency electrosurgery, the author believes, "a still larger percentage will be saved."

Modified Contard Technique in Malignancies of the Throat

L. J. Menville and J. N. Ané (*New Orleans Medical and Surgical Journal*, 87:817-820, June, 1935) report the use of a modified Contard technique in 2 cases of malignant tumor of the throat at the Tulane Medical Clinic, New Orleans, La. Both were advanced cases with metastases. In both these cases a dosage of 185 r units per day was used, measured on a water phantom with back scattering; a copper and aluminum filter was used; and a field of entry 7×8 cm. The first case was given 19 daily treatments, excepting Sundays, to the right side of the neck, with a total dose of 3,515 r units and an effective dose of 2,190 r units; 28 daily treatments (excepting Sundays) were given the left side with a total dose of 5,180 r units and an effective dose of 2,571 r units. The second case was given 28 daily treatments (excepting Sundays) to the right side of the neck, with a total dose of 4,625 r units and an effective dose of 2,501 r units; the left side was given a total dose of 5,180 r units and an effective dose of 2,571 r units. Of these 2 cases, one had been classified as an epidermoid Grade 3; and one as a squamous carcinoma Grade 2. One of these patients had had a laryngectomy done and had developed a recurrence; this patient now shows no tumor, has gained weight and is reported as "feeling fine." The second patient is clinically much improved. These cases have been treated too recently to "prognosticate" end results.

Total Laryngectomy

P. C. Huet and M. Escat (*Presse médicale*, 43:793-796, May 15, 1935) maintain that surgical treatment is indicated in cancer of the larynx that is entirely endolaryngeal, cancer of the vocal cord being the most frequent type. In the very early stage of cancer of the vocal cord, thyrotomy with resection of the growth may be sufficient; in some cases further advanced, hemilaryngectomy may give good results; if the cord is fixed, the percentage of recurrence is greater than if it is mobile. In cases where the cancer is still endolaryngeal, but all malignant tissue cannot be removed by hemilaryngectomy, total laryngectomy is indicated. With modern technique the operation of total laryngectomy is less mutilating than previously. The best technique for this operation, the authors maintain, is that of Glück as modified by Tapia, which they describe in detail. The three essential features of this technique are: No preliminary tracheotomy unless absolutely necessary; local anesthesia; exposure of the larynx from above downward. The chief contribution made by Tapia is the formation of a protective covering (or "corset") of the constrictor muscles and the thyroid perichondrium after suture of the pharynx.

Gynecology

Theelin Treatment of Gonorrheal Vaginitis

J. R. Miller (*American Journal of Obstetrics and Gynecology*, 29:553-558, April, 1935) reports the use of the female hormone—theelin—in the treatment of gonorrheal vaginitis in children, as first suggested by Lewis in 1933. This method has been used for the last two years at the Hartford Municipal Hospital. Of the 68 cases treated, 26 have been under observation less than six months; of the 42 cases studied for more than six months, 19 showed good results, 16 temporary control of the infection, and 7 no results, due either to insufficiency of dosage or lack of co-operation. Of the 19 cases showing good results (repeatedly negative smears), 13 have been under observation

for six months to a year, 6 for over a year. It was found that recent acute infections require larger doses and longer treatment than chronic infections. Relapses were frequently due to reinfection from the urethra. Various commercial preparations of theelin were used in this series of cases, usually given by injection, but in some cases by mouth. On the basis of his findings in these cases, the author suggests that in the treatment of gonorrheal vaginitis in children, daily injections of at least 100 R. U. of theelin be given, preferably in divided doses, until a "vigorous" squamous cell vaginal reaction is obtained; the dosage may then be diminished, but should be sufficient to maintain the reaction until the gonococcus disappears, and then a moderate reaction should be maintained for two to three months. In three of the older children nine to eleven years of age, puberty reactions were observed after completion of the treatment, but in no instance has there been any ill effect from the treatment observed so far. The author adds in a footnote, that in one case it has been possible to inspect the ovaries at an operation for appendicitis in a girl nine years of age who had been given 100 R. U. daily for ten days. Biopsy of the ovary showed no reaction.

COMMENT

The treatment of vulvo-vaginitis in children has been the "bug-a-boo" of physicians since time immemorial. J. R. Miller, following the technic of Lewis of New Haven, has gotten some remarkable results by the hypodermic use of theelin. He recommends 100 R. U. daily until a "marked" squamous cell vaginal reaction is obtained and then reduces the daily dose sufficiently to get a moderate reaction for 2 or 3 months.

We have had no personal experience with this method of treatment but certainly it warrants a trial.

H. B. M.

Total Versus Subtotal Abdominal Hysterectomy In Benign Uterine Disease

E. H. Richardson (*American Journal of Surgery*, 28: 588-595, June, 1935) states that his study of the question of total versus subtotal hysterectomy in benign lesions of the uterus has led him to conclude that the subtotal operation has "only a limited field of application." This conclusion is based on the fact that in only a few cases in which hysterectomy is indicated is the cervix found to be entirely normal, and it is the infected or diseased cervix which is liable to become the site of the cancer or to be the cause of subsequent symptoms even if not cancerous. The author has devised a simplified technique for abdominal panhysterectomy—first described five years ago—which was designed "to guard against the major hazards incident to this procedure." In 100 cases in which this procedure has been used "none of these hazards has materialized"; and he feels that this technique can be recommended to those who find the older methods unsatisfactory.

COMMENT

There is little doubt but that pan-hysterectomy is more difficult and time-consuming than the supra-cervical operation. Likewise it is safer in the end for the patient. On the other hand, supra-cervical hysterectomy is almost as safe, provided the cervix is destroyed (i.e., the gland-bearing portion) by the cautery per vaginam, before opening the abdomen. We have practiced the latter procedure in several hundred supra-cervical hysterectomies during the last 15 years and see no reason for doing routine pan-hysterectomy.

The recurrence of cancer in the retained cervical stump is much over-estimated. In our clinic at the Long Island College Hospital we have seen only 3 cases in nearly 20 years.

H. B. M.

Intraperitoneal Hemorrhage of Follicular Origin

G. Cotte and G. Pallot (*Gynécologie et Obstétrique*, 31:712-719, May, 1935) note that intraperitoneal hemorrhage of ovarian origin may be due to rupture of a follicular or a corpus luteum cyst, and occasionally to the

rupture of a mature follicle or of a corpus luteum in the stage of vascularization. They report a case in a woman twenty-one years of age who had a slight bloody discharge in the inter-menstrual period accompanied by severe abdominal pain suggesting a tubal pregnancy. Menstruation had always been normal, and she had had a normal pregnancy and labor. At operation the peritoneal cavity was found to contain much blood; the tubes were both normal; the bleeding was found to be due to a ruptured follicle; the ovary appeared to be normal. The ruptured follicle was excised and the ovary sutured. The patient made a good recovery. The excised portion showed a small hemorrhagic cyst which was distinct from the ruptured follicle; the stroma showed hemorrhagic infiltration. The follicle showed beginning luteinization. The rupture of the follicle appeared to be due to the presence of the hemorrhagic cyst close to it, and to an exaggeration of the normal congestion at the time of ovulation; this may have been caused by a vasomotor disturbance of endocrine origin. Some authorities recommend removal of the ovary in cases of hemorrhage due to rupture of the follicle. As this accident occurs chiefly in young women, the authors are of the opinion that the ovary should be conserved unless it is definitely diseased. Excision of the follicle with suture, as in the case reported, is sufficient to arrest the hemorrhage, and is not followed by recurrence of the bleeding.

COMMENT

Certainly intraperitoneal hemorrhage of follicular origin can be alarming. Recently we saw such a case in consultation and only because the existence of pregnancy was impossible were we able to make a correct diagnosis. On opening the abdomen there was found 300 cc. of free blood in the pelvic cavity and more coming from a freshly ruptured follicle. The differential diagnosis between this condition and tubal pregnancy is often impossible to make.

We heartily agree with the author's view that the ovary should be saved whenever possible—and almost invariably it can.

H. B. M.

Heart Disease in Patients with Uterine Myoma

F. Fetter and T. G. Schnabel (*Archives of Internal Medicine*, 55:609-625, April, 1935) report a study of the condition of the heart in 50 women with uterine myoma. Of these 25, or 50 per cent., showed evidence of cardiovascular disease. In 5 of these, the only evidence of cardiac damage was the electrocardiographic findings, which showed changes in the T wave in leads I and II. The authors are of the opinion that these changes may have been caused by a change in the position of the heart resulting from the abdominal tumor. In 20 cases there were definite clinical signs of cardiac disease, i.e., 40 per cent. of the entire series. There was no evidence that cardiac disease was due to anemia resulting from severe bleeding from the tumor. The only patient showing such an anemia had a perfectly normal heart. In 5 of these 20 patients, there was some obvious cause for the heart disease other than the uterine tumor—rheumatic infection in 2 cases, syphilis in 2, and glomerulonephritis in one case. The remaining 15 patients had hypertensive heart disease. In the group under 40 years of age the incidence of this type of heart disease was no higher than its general incidence in women of the same age and race. In women in the fifth and sixth decade of life, the incidence of hypertensive heart disease was higher in the patients with myoma than the general incidence in these age periods. However, as there were relatively few cases in this group no general conclusions can be drawn in regard to the relationship of myoma to heart disease in older women. At least in this series "no indication was found . . . of any clinical entity as 'myoma heart' in the sense of a type of heart disease caused by and occurring with uterine myoma alone."

COMMENT

The relationship of heart disease to uterine myoma has long been a debatable question. Clinically we believe that the "hearts" of those women with fairly large or multiple myomata, particularly when menorrhagia is a prominent

symptom, are not as "sound" as they should be and indeed often show real anatomic lesions. It is true that some of these hearts show no signs of trouble on physical examination—a few show some changes in the electrocardiogram—but nevertheless "go bad" under the strain of operation. We seriously doubt if there is such a lesion as the "myoma heart."

H. B. M.

Vital Staining and Wet Films in Diagnosis Of Lesions of the Cervix

R. K. Bowes and N. R. Barrett (*Surgery, Gynecology and Obstetrics*, 60:1072-1076, June, 1935) report the use of Schiller's method of vital staining of the cervix with Lugol's solution for the diagnosis of cervical lesions, at St. Thomas Hospital, London, England. They have found that this method of staining gives results that are inconsistent or difficult to interpret in certain instances; and have developed a method of biopsy with the use of wet films. This method has been used as a rule in conjunction with Schiller's method, but may be employed without preliminary vital staining. If used with the vital staining method, material for biopsy is taken from areas that do not stain normally. A special punch is used by which biopsy material can be obtained without causing pain, even in cases of cervicitis, and without serious bleeding. The tissue is teased out on the slide before it dries, stained with hemalum and eosin and examined immediately. The epithelium that has taken up the Schiller stain is decolorized at once by the Schaudinn solution and does not interfere with subsequent staining. This method is of special value in differentiating between inflammatory and malignant lesions; in acute inflammation it has been found that the squamous and columnar cells of the cervical epithelium are often phagocytic, taking up polymorphonuclear cells. The diagnosis of malignancy is based upon the appearance of the malignant cells themselves. This examination can be made rapidly and in the authors' experience has always given an accurate and reliable diagnosis.

COMMENT

It is a well known fact that while Schiller's method is a good clinical test for diagnosis of lesions of the cervix it cannot be compared with any method in which the microscope is used. The method of Bowes and Barrett should be, and, if done by those with experience, is a much more certain method of diagnosing malignancy of the cervix, because the malignant cells can be recognized. Personally we do not put any too much faith in the Schiller test (only suspicion is cast), because we must know "for sure," and there is no sure way except by the use of the microscope—which means biopsy—and examination by a competent pathologist.

H. B. M.

Treatment of Amenorrhea with Large Doses of Estrogenic Hormone

R. Kurzrok, L. Wilson and M. A. Cassidy (*American Journal of Obstetrics and Gynecology*, 29:771-786, June, 1935) report the treatment of 12 cases of primary amenorrhea and 13 cases of secondary amenorrhea (of over one year's duration) with large doses of estrogenic hormone. In this series amniotin, prepared from the amniotic fluid of cattle (1 c.c. = 1000 R. U.) and progynon B (1 c.c. = 10,000 R. U.) were used. During the first week of treatment two injections of 10,000 R. U. each were given at an interval of three days; during the following week an additional 20,000 R. U. were given. In the third and fourth weeks no treatment was given. If a menstrual period occurred, treatment was repeated immediately after menstruation ceased; if no period occurred the series of injections was begun anew. All injections were given intramuscularly; neither general nor local reactions were observed. In cases of primary amenorrhea with marked retardation of breast development, the hormone treatment resulted in a "startling" growth of the breasts. No change was noted where the breast development was normal before treatment. It was found that in primary amenorrhea a total dosage of about 100,000 R. U. was necessary to bring on the first menstrual period; and in secondary

amenorrhea, a dosage of about 50,000 R. U. In cases of primary amenorrhea, with rudimentary sex organs and breasts, menstruation ceased when treatment was discontinued, and the breasts, labia and vagina began to atrophy. In some of the cases of secondary amenorrhea one or more menstrual periods occurred after cessation of treatment.

Obstetrics

Intravenous Use of Pituitrin in Obstetrics

H. A. Baron (*Journal of Obstetrics and Gynecology of the British Empire*, 42:322-326, April, 1935) reports on the use of pituitrin given in 1 minim doses intravenously in obstetrical cases. The best results were obtained in patients in whom the membranes had ruptured; and in secondary inertia of the uterus either before full dilatation, or after dilatation with the head on the perineum. In the latter cases, the use of low forceps was made unnecessary by pituitrin given after the pains had ceased. The administration of pituitrin intravenously is contra-indicated in patients with cardiac or renal disease, in eclamptic patients, and when the patient has been delivered previously by cesarean section. A diagnosis of presentation and position must be made, and the condition of the cervix known before pituitrin is given. Pituitrin may be used also to control postpartum hemorrhage, but only after the placenta is delivered. In the 55 cases in which the author gave pituitrin intravenously, there was no maternal death and only one fetal death.

COMMENT

Pituitrin, at best, is a dangerous drug. Giving it intravenously in minim doses seems too much "technic" for such a small quantity. Then, too, many general practitioners have difficulty or in fact find it impossible to enter a vein with a hypodermic needle.

We still recommend "no pituitrin" until after the baby is born, except in very lax multiparae with normal pelvis, where the caput is in sight and there is need for "just one more good contraction." Here the pituitrin is easiest given intramuscularly and can do no harm.

After the baby is born we use $\frac{1}{2}$ -1 cc. pituitrin routinely and see no reason for changing the technic.

H. B. M.

Vitamin B Deficiency During Pregnancy and Lactation

E. M. Tarr and O. McNeile (*American Journal of Obstetrics and Gynecology*, 29:811-818, June, 1935) note that their studies of the average American dietary indicate that there is a deficiency in the vitamins, and especially in the vitamin B complex. Symptoms of advanced vitamin B deficiency are not frequently observed, but the early signs of inadequacy are of greater clinical importance. They are: Impairment of the digestive function, intestinal stasis, loss of appetite, constipation, restlessness. A study of the diet of a control group of pregnant women who were allowed to select their own food from a diet list showed that vitamin B protective foods supplied less than 15 per cent. of the calories. Another group of women had their diet prescribed so as to supply nearly 50 per cent. of total calories by vitamin B protective foods. Some of these women, who had shown evidence of "demineralization" in previous pregnancies, were also given a mixture containing iron, phosphorus, calcium, magnesium, sodium and potassium. Some who were disturbed by gas or constipation were given additional vitamin B in the form of brewers' yeast, two teaspoonfuls daily. In the control group, a much larger percentage suffered from digestive impairment, constipation and intestinal stasis than in the test group given adequate vitamin B. A number of the control group showed marked nervous irritability and emotional instability during pregnancy and lactation, while these symptoms were not observed in the test group. The latter group also showed much better lactating ability. In the control group, 69 per cent. produced an adequate supply of milk for twelve weeks, 32 per cent. for twenty weeks, 8½ per cent. for thirty weeks. In the test group

given adequate vitamin B, 78 per cent. produced an adequate supply of milk for twelve weeks, 65 per cent. for twenty weeks, and 18 per cent. for thirty weeks. The women in this group also were in better general condition and free from nervous irritability during the lactating period.

COMMENT

That a good supply of vitamin B during pregnancy is most essential cannot be denied. Much experimental work has been done to prove conclusively this fact. The question is: How can sufficient vitamin B be supplied to the pregnant woman? We believe by proper administration of vitamin B protective foods and not by the various preparations "said to contain" vitamin B. Our foremothers depended on good food, properly taken, and got along very well. We can do the same if we know how. Good food is far superior to "bottled vitamins."

H. B. M.

Diagnosis and Treatment of Diffuse Puerperal Peritonitis

C. Jeannin and E. Chomé (*Bulletin de l'Académie de Médecine*, 99:627-632, May 14, 1935) report 70 cases of diffuse puerperal peritonitis treated in 1925 to 1935; these 70 cases occurred in 1,120 cases of puerperal infection treated in the authors' service. Only 31 of these 70 patients were delivered in this service in a total of 30,700 deliveries. In 7 of these cases, the patients had a streptococcus throat infection at the time of labor. In all the 70 cases streptococci were found as the only or the predominant organism in the peritoneal pus. In 7 cases the peritonitis resulted from some acute accident, such as a rupture of the uterus, of a pyosalpinx, etc., but in most cases it was due to extension of the infection from the uterus by the tubal or the lymphatic route. In the first group, the symptoms were typically those of peritonitis—with abdominal pain and distention, rigidity and vomiting. In the second and larger group of true puerperal peritonitis, the peritoneal symptoms were not so typical. There was no rigidity of the abdominal wall, and abdominal respiration was conserved. The patients rarely complained of severe abdominal pain, although there was some tenderness on palpation. The two chief symptoms in these cases were abdominal distention and diarrhea; the distention was at first slight and entirely below the umbilicus, but extended rapidly. Diarrhea was a frequent, but usually a late symptom. The general symptoms were more valuable for diagnosis—chills, rapid and weak pulse, low blood pressure, cyanosis of the extremities, and especially "the peritoneal facies" with signs of rapid dehydration. Of the 70 patients, 59 died, a mortality of 85.5 per cent.; 7 were admitted in extremis and were not operated. In 31 cases hysterectomy was done; all but 2 of these patients died. The authors are convinced that hysterectomy is not indicated in the usual type of puerperal peritonitis; this operation is indicated only in cases of the first type—due to some acute complication. The best results, they have found, are obtained by colpotomy with drainage of the Douglas pouch and intraperitoneal injections of Vincent's serum. Of 10 recent cases treated by this method, 5 have recovered.

COMMENT

Any obstetrical service which has 70 cases of diffuse puerperal peritonitis in 10 years is a fine teaching service but not so "fine" from the standpoint of puerperal morbidity and mortality rates. As we would expect, in all these 70 cases streptococci were found as the sole or predominant organisms in the peritoneal pus. The mortality rate was 85.5%. Terrifically high!! On further inspection we find the reason—in 31 cases hysterectomy was done—all died but two.

Conservative treatment gives far better results, as shown by every good clinic in America and most of those on the Continent. Operation is only indicated for the evacuation of collections of pus.

H. B. M.

Roentgenologic Diagnosis of Placenta Previa

W. H. Ude and J. A. Urner (*American Journal of Obstetrics and Gynecology*, 29:667-679, May, 1935) describe their method for roentgenological diagnosis of placenta previa. A Potter-Bucky diaphragm is used; the bladder is emptied by catheter and about 40 c.c. of a sodium iodide solution is instilled; the amount of this opaque medium used must be sufficient to outline the urinary bladder, not to distend it completely. The catheter is withdrawn before making the roentgenogram. The usual anteroposterior film is made with the tube centered over the mid or lower abdomen; a large enough film is made to show the entire fetus. A lateral film has been found of little value for the actual demonstration of placenta previa, but it may be of indirect aid by establishing the presence of the placenta in the upper segment of the uterus, excluding low implantation. The diagnosis of placenta previa in the abdomino-posterior film depends upon the demonstration of the densities between the bladder margin and the skull of the fetus. Normally this space appears to be only about 6 to 8 mm. in depth, but in placenta previa a wide space or soft tissue mass is shown; in partial placenta previa there may be displacement of the head with a mass on one side. This method is used in cases of abdominal bleeding in the last trimester of pregnancy, and makes it possible to establish a diagnosis of placenta previa without genital contamination. In 14 cases in which a diagnosis of placenta previa was made roentgenologically, it was confirmed by clinical and operative findings in all but one instance.

COMMENT

Any method that will help to make a certain diagnosis of placenta previa should be welcomed by the profession. Digital diagnosis is certain, of course, but often very dangerous to the patient. No patient suspected of having placenta previa should have a pelvic examination until all preparations have been completed for the control of a possible hemorrhage. This method of Ude and Urner, if practical, would obviate the necessity of pelvic examination and therefore has much to commend it.

We have not had a suitable case of placenta previa since becoming familiar with the Ude and Urner technic. We expect considerable diagnostic help from this method of visualizing placenta previa in the future.

H. B. M.

Renal Function in the Toxemias of Pregnancy

W. J. Diekmann (*American Journal of Obstetrics and Gynecology*, 29:472-488, April, 1935) reports a study of renal function by means of blood and urine examinations and renal function tests in 850 patients with moderate and severe toxemia of pregnancy without convulsions and 82 with eclampsia. A comparative study was made in 12 normal pregnant women at term. It was found that in normal pregnancy the blood nonprotein nitrogen and blood urea were below normal, averaging 23.8 and 12.2 respectively. There was a delayed or decreased elimination of water. The concentration of urea and NaCl in the urine was decreased, and the mean for the maximum specific gravity was 1.022. The mean for the urea concentration factor in normal pregnancy was 63.8 before delivery and 71.5 after delivery; this increase above normal is caused by the reduction in the blood urea. The mean for the urea clearance was 102.3 before and 124.5 after delivery; the urea clearance is apparently decreased in the last half of pregnancy in spite of the decrease in blood urea. In the cases of pregnancy toxemia, the averages for blood nonprotein nitrogen and urea nitrogen were 30.6 and 14.5 mg. respectively—higher than in normal pregnancy. The excretion of water was more markedly decreased than in normal pregnancy; and the concentration of urea and NaCl in the urine was still further decreased so that the average specific gravity was 1.018 before and 1.020 after delivery. The mean for the urea concentration factor in the toxemia cases was slightly less than in the nonpregnant individual, and approximately one-half the mean for the normal pregnant woman. The urea clearance was as a rule definitely diminished in cases of toxemia, hypertension or nephritis

of pregnancy; this impairment is caused by the reduction or delay in the elimination of water and the diminished concentration of urea in the urine. If the urea clearance after delivery remains persistently 50 per cent. of the normal or less, this indicates a renal impairment. Many patients, however, show considerable increase in the urea clearance three to six months after delivery; so that for the diagnosis of permanent renal impairment, renal function tests should not be made until several months after delivery.

Cancer Department

(Concluded from page 253)

Schreiner and Simpson¹⁰ say that the end result of treatment of epithelioma of the oral cavity with bare seeds is superior to surface applications.

Dan Mackenzie¹¹ advocates surgical diathermy as a means of operating on cancer chiefly because of its action in killing cancer cells. In operating on pharyngeal cancer, he uses diathermy, because (1) it prevents the operator squeezing live cancer cells into the lymphatic vessels draining the affected area; (2) it prevents sowing of the operation field with living cancer cells; (3) it destroys the bacteria of sepsis in the tissues adjoining the field of operation.

The same author¹² also says that in inoperable cancer, there is no doubt, in his opinion, that by bold and wide diathermy destruction, life can be prolonged.

These forms of treatment apply in all three regions of the pharynx. We might mention also that in cancer of the hypopharynx, Wilfred Trotter¹³ of London, in suitable cases, does a lateral transthyroid pharyngotomy. The pharynx is exposed through a lateral incision in the neck, and the pharynx is then opened by a longitudinal incision. Trotter then removes as much as necessary with the scissors. Mackenzie uses diathermy for the reasons already given.

CONCLUSIONS

1. Malignant tumors of the pharynx and nasopharynx are more common than benign growths and they are nearly always primary.
2. Early diagnosis is not easy due to a lack of early localizing and manifest symptoms.
3. Carcinoma of the pharynx occurs chiefly in the form of epithelioma. It usually makes its first appearance in or about the tonsil.
4. Unless the diagnosis is made early, and there is prompt response to some form of treatment, the outlook is hopeless.
5. Treatment falls under three heads: (1) surgery; (2) irradiation with radium or Roentgen ray; (3) surgical diathermy.

BIBLIOGRAPHY

1. The Early Diagnosis of Cancer in the Throat (Pharynx and Larynx). Sir St. Clair Thomson. The Cancer Review, Vol. 3, No. 4, April, 1928. Pp. 145-152.
2. The Nose, Throat and Ear and Their Diseases. Chevalier Jackson and George Morrison Coates. W. B. Saunders Company, Philadelphia, 1929. Pp. 161-163.
3. Five Year End-Results of Radiation Treatment of Cancer of the Oral Cavity, Nasopharynx and Pharynx. Based on a study of 309 Cases, 1912 through 1923. B. F. Schreiner and B. T. Simpson. The Radiological Review and the Chicago Medical Recorder, August, 1929, Vol. 51. Pp. 327-332.
4. The Treatment of Cancer of the Pharynx, Larynx and Oesophagus by Surgical Diathermy. Dan Mackenzie. Acta Oto-Laryngologica, Supplementum 7, 1928. Pp. 263-299.
5. In Jackson and Coates Book, p. 328.
6. Carcinoma of the Jaws, Tongue, Teeth and Lips. Douglas Quick. Surg., Gynec. and Obstet., Feb., 1923, Vol. 36, p. 180-181.
7. Malignant Tumors of the Nasopharynx. French K. Hansel. Archives of Otolaryngology, Vol. 9, 12-22, Jan., 1929.
8. Diseases of the Nose and Throat. Sir St. Clair Thomson. D. Appleton and Company, New York, 1927. P. 375.
9. Two Cases of Carcinoma of the Hypopharynx. L. J. Leahy. Buffalo General Hospital Bulletin, April, 1923. Pp. 64-67.
10. Applied Pathology in Diseases of the Nose, Throat and Ear. Joseph C. Beck. C. V. Mosby, St. Louis, 1923. P. 178.
11. Treatment of Malignant Neoplasms of the Tonsil. Journal of Radiology, May, 1922, Vol. 3, p. 173.
12. Diathermy in the Removal and Treatment of Pharyngeal Cancer. Dan Mackenzie. The Journal of Laryngology and Otolaryngology, Vol. 39, No. 2, Pp. 545-553, Oct., 1924.
13. Operations for Malignant Disease of the Pharynx. Wilfred Trotter. The British Journal of Surgery, Vol. 16, pp. 485-495, January, 1929.

Editorials

The Circulation of the Blood: Still an Unfinished Chapter

In his history of the Cambridge University School Sir Humphry Davy Rolleston throws an interesting light on the conditions in Harvey's time which hampered the acceptance of that great Englishman's demonstration. In the first place, the English medical schools were not *living* institutions. Medicine was regarded as merely a part of general learning. In that general scheme mathematics, and later the classics, were the predominant academic pursuits. "While cultivating the intellectual needs, the University atmosphere was conservatively hostile to those of the body." Serious students of medicine, like Harvey and Caius, were obliged to go to Padua "to get real teaching." Glisson appears to have been the outstanding Regius Professor in the seventeenth century; naturally, the man who gave his name to the hepatic capsule, wrote the famous monograph on rickets, and first described muscular irritability, proving that on contracting a muscle does not alter in bulk, supported Harvey "and influenced his pupil John Wallis . . . to maintain the Harveian discovery in a public dissertation." In fact, Rolleston suggests that it was Harvey's discovery that turned Glisson to the physics line, for until that event Glisson had been teaching Greek. His achievements as an experimental physiologist show that he absorbed Harvey's attitude completely and that he was basically of the same type of mind, ready to adjust to a changing world.

Around this matter of supporting or repudiating Harvey seem to have revolved the Regius Professorships. For a long time the question was a "political" issue in the Cambridge medical school, with Harvey's "stock" usually running pretty low. If a candidate for a Regius Professorship was against Harvey it did not weaken his chance to be appointed. Teachers like Crooke and Collins "did not take any notice of Harvey's discovery of the circulation," and so courted professional favor.

The academic prejudice was against the experimental method in either medicine or general science. Thus experimental scientists who had gathered at Oxford on account of the disturbed condition of the times, and who were active in forming the Royal Society to further their aims, in time saw their efforts to promote scientific research come to naught. This group included such men as Robert Boyle, Christopher Wren and Thomas Willis (he of the "circle of Willis").

Harvey's principal exhortation was "to search and study out the secrets of nature by way of experiment." What did the schools teach? From the birth of Cambridge University, for example, until the nineteenth century, the medical teaching consisted in the reading and expounding of Hippocrates, Galen, and Aretaeus, "and was devoid of the experimental method in which Harvey could have led the way."

We should not flatter ourselves as being altogether devoid of similar inhibitions. We seem to see a too ready acceptance today of the minor advances, but an attitude faintly reminiscent of old Cambridge with respect to major matters; the former creates a disarming and misleading atmosphere. One could, it would seem, almost formulate laws on this score. There is, of course, a partial corrective in that we drop vast numbers of unimportant innovations after short periods of enthusiasm. There is still something the matter with the medical background in so far as the Cantabrigian attitude manifests itself.

Harvey could not see the capillaries because he lacked a microscope and had to imagine interstices through which arterial blood made its way over to the venous side. So he did not even lack imagination when limited by his experimental method. Really, then, he had almost everything. We think now that because we do not lack a microscope that there is no other lack. So the most modern textbooks of physiology fail to utilize available knowledge in accounting for the circulation of the blood (which they do not account for to the satisfaction of intelligent men), and clinicians continue to stumble along diagnostically and therapeutically without new knowledge that has repeatedly been called to their attention. Had they lived in Harvey's day, they would have been staunch Cantabrigians. Were Harvey living today, he would eagerly complete the circulatory equation with the new data.

The Carotid Sinus Reflex

The relation between the carotid sinus reflex and faintness, Stokes-Adams' disease and hypertension is an interesting one. In cases of irritability of the sinus we find faintness only. In several centers there is experimental work going on, attempting to learn more about the relation between hypertension and the carotid sinus reflex.

L. H. Sigler (*Am. J. M. Sc.*, 186: 110, 118, 125, 1933) divided 345 cases into four groups: (1) arteriosclerotic heart disease; (2) hypertension; (3) rheumatic heart disease; (4) neurocirculatory asthenia; (5) general constitutional disease with no cardiac abnormalities. He found that the first two groups showed a much more marked degree of slowing of the heart than any other group. The fourth group showed the least slowing. Local disease, as sclerosis in the carotid sinus, vagal center or heart, greatly accentuates the reflex in the predisposed individual.

The reflex is absent in cases of marked sinus bradycardia; in moderate bradycardia, on the other hand, it is most marked; and in tachycardia, it is greatly diminished.

Sigler found that the reflex occurs more often among patients with precordial pain than among those without it.

No doubt we often encounter mild disturbances of this reflex. The more severe forms are more easy to classify. It will be interesting to follow the studies that are going on.

M. W. T.

Commercial Aspects of Cardiac Pathology

The increased operation of new factors, namely, cigarettes, acetylsalicylic acid and other coal tar derivatives, superadded to the old complex of strained living, rheumatism, influenza, syphilis, sexual excess, overwork and alcoholism, would seem to account for the increase of cardiac inadequacy, disease (including the coronary element), and mortality.

It will be noticed that the new factors are agents the increased sale of which serves commercial interests in huge degree.

The abuse of high-powered "soft drinks" is presumably an auxiliary factor.

What matters the hearts of men if wealth accrue? All our "casuistries" are silenced here. Is it not proclaimed by sales promoters that their particular headache remedies do not depress the heart? Who are we to lift a didactic voice against the superbabbitts?

Radio Medicine

The Columbia Broadcasting System is to be commended for its efforts to eliminate from its programs all advertising announcements offensive to good taste.

There is a taste having to do with halitosis, body odor, toxic waste matters, elimination, wild and misleading claims, and similar topics. There is also a taste having to do with the doctor on the air.

Good taste on the air, as regards physicians, does not seem to be the same in England and the United States. Thus English medical men of good standing, we understand, do not speak in their own persons, but only for organized medicine; names are not announced. We like the English system.

What is spoken about medically on the radio, if spoken about at all, should have to do with matters of general scientific interest. The people should get their intimate medical instruction from their physicians—not from the newspapers, radio, or any other outside source. There are those who think "regulars" as well as quacks should be prohibited from talking at all on the radio. How many of the "certified" medical radio speakers can claim infallibility? How many of the hearers have sufficient understanding?

It is probable that the people cannot differentiate between the quack and the regular practitioner on the same platform.

We know very well, of course, that there will be no essential change in our American methods; but that does not make them right.

We also know why there will be no change.

Aged Progeny of Young Parents

It comes as a bit of a shock sometimes to hear some obviously senile patient speak of a living par-

ent. How old, and in what condition must the parent be, one thinks silently and shudderingly. The mere fact that such a one can be alive challenges credibility. Perhaps one didn't hear aright. It is a surprise when one by chance meets the parent and finds him or her to be quite a husky person, considering age. The answer usually is that the senile one is not a scion of the stock represented by the husky parent, but of some poorer breed in the family line. Nevertheless, the shock always comes when a quavering voice, emanating from an arteriosclerotic ruin, speaks of "father's" letter of last week.

Knighthood

(Detroit Free Press)

And so the British King is going to make Dr. Dafoe a commander of the Order of the British Empire. And he, in turn, will give his famous quintuplets the order of the bath.

BOOKS RECEIVED

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

CLINICAL LABORATORY METHODS AND DIAGNOSIS. By R. B. H. Gradwohl, M.D. St. Louis, C. V. Mosby Company, [c.1935]. 1028 pages, illustrated. 4to. Cloth, \$8.50.

EMOTIONS AND BODILY CHANGES. By H. Flanders Dunbar, M.D. New York, Columbia University Press, [c.1935]. 595 pages. 8vo. Cloth, \$5.00.

AIDS TO OPHTHALMOLOGY. By N. Bishop Harman, M.A. Eighth edition. Baltimore, William Wood & Company, [c.1935]. 242 pages, illustrated. 16mo. Cloth, \$1.25.

THE INDIVIDUAL CRIMINAL. By Ben Karpman, M.D. Washington, Nervous & Mental Disease Publishing Co., [c.1935]. 317 pages. 8vo. Cloth, \$4.50.

PACEMAKERS IN RELATION TO ASPECTS OF BEHAVIOR. By Hudson Hoagland. New York, The Macmillan Company, [c.1935]. 138 pages, illustrated. 8vo. Cloth, \$3.00.

PSYCHOLOGY AND HEALTH. By H. Baniaster, Ph.D. New York, The Macmillan Company, [c.1935]. 256 pages. 12mo. Cloth, \$2.50.

THE WOMAN ASKS THE DOCTOR. By Emil Novak, M.D. Baltimore, Williams & Wilkins Company, [c.1935]. 189 pages, illustrated. 8vo. Cloth, \$1.50.

INTERNAL CLINICS. A Quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, etc. Volume 2, 45 Series, 1935. Edited by Louis Hamman, M.D. Philadelphia, J. B. Lippincott Company, [c.1935]. 327 pages, illustrated. 8vo. Cloth, \$3.00.

FORMULARIO DE COCINA DIETÉTICA. By Dr. César Cardini, Buenos Aires, El Ateneo, [c. 1935]. 230 pages. 8vo. Cloth.

A SQUARE DEAL FOR THE NARCOTIC ADDICT. By William H. Ladue, M.D. Published by the Author, [c.1935]. 131 pages. 8vo. Paper, \$1.00.

ONE HOUR OF MEDICAL HISTORY. By Benjamin Spector, M.D. Volume four. Boston, The Beacon Press, Inc., [c.1935]. 169 pages, illustrated. 12mo. Paper.

OSLER'S PRINCIPLES AND PRACTICE OF MEDICINE. Revised by Thomas McCrae, M.D. Twelfth edition. New York, D. Appleton-Century Company, [c.1935]. 1196 pages, illustrated. 8vo. Cloth, \$8.50.

THE SPLEEN AND RESISTANCE. By David Perla, M.D. & Jessie Marmorston, M.D. Baltimore, Williams & Wilkins Company, [c.1935]. 170 pages. 8vo. Cloth, \$2.00.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. Edited by H. Lethby Tidy, M.D. & A. Rendle Short, M.D. Baltimore, Williams & Wilkins Company, [c.1935]. 522 pages, illustrated. 8vo. Cloth, \$6.00.

THE SURGICAL CLINICS OF NORTH AMERICA. Volume 15, number 3. (Chicago Number). June, 1935. Issued Serially one number every other month by the W. B. Saunders Company, Philadelphia & London. Per Clinic Year (6 nos.) Paper, \$12.00. Cloth, \$16.00.

MEDICAL BOOK NEWS

Edited by TASKER HOWARD, M.D.

All books for review and communications concerning *Book News* should be addressed to the Editor of this department
1313 Bedford Avenue, Brooklyn, New York

August, 1935

CLASSICAL PARAGRAPH



When our watches stop, we take them to a watchmaker to ascertain why they have stopped. The watchmaker knows that there are various ways in which the movements of the instrument may have been arrested. The main spring may have broken; or the little chain that connects the barrel with the fusee may have parted; or the teeth of some of the wheels may have become inextricably entangled; or the watch may have ceased to go (as the saying is) simply because it has not been wound up. Now the examination which the watchmaker undertakes in respect to the watch, I am desirous of making in respect to the human body. I am going to inquire into the several processes and modes of dying—the steps, or ways, by which the vital functions of the body are extinguished. A very little experience in the sick chamber, or in the wards of a hospital, will suffice to teach you that, although all men must die, all do not die in the same manner. In one instance the thread of existence is suddenly snapped; the passage from life, and apparent health perhaps, to the condition of a corpse, is made in a moment: in another the process of dissolution is slow and tedious, and we scarcely know the precise instant in which the solemn change is completed. One man retains possession of his intellect up to his latest breath: another lies unconscious, and insensible to all outward impressions, for hours or days before the struggle is over.

Thomas Watson: *Different Modes of Dying: Lectures on the Principles and Practice of Physic.* London, 1843

Nasal Reconstructive Surgery

CORRECTIVE RHINOPLASTIC SURGERY. By Joseph Safian, M. D. New York, Paul B. Hoeber, Inc., [c. 1935]. 218 pages, illustrated. 4to. Cloth, \$8.00.

Dr. Safian has written a very valuable book which should commend itself to any surgeon who is interested in this specialized line of work. There are very few monographs on this subject and none which we know of which is not a translation from a foreign language.

Although the author is well known for his skill in reconstruction surgery—which means the repair of deformities on any part of the body and the remoulding of the female breast—he has confined himself to nasal reconstructive surgery in this volume. We sincerely hope that this will be followed by other volumes, descriptive of the various detailed operations so necessary mainly because of automobile and industrial accidents.

This book is divided into twelve chapters, profusely illustrated both by photographs and line drawings made by Dr. Joseph Tamerin. An historical survey is given in the first chapter, written by Dr. Herman Pomeranz. The introduction states that, although plastic surgery has been performed since ancient times, it has only become an exact science since the World War. The chapters of particular importance and which are worthy of special attention are those dealing with Hypertrophies of the Tip of the Nose, The Relation of Septum Resections to Rhinoplasty, Saddle Nose and Recent Fractures and Dislocation of the Nose.

In the past this specialty was monopolized by beauty specialists and quacks. A few men like Dr. John O. Roe of Rochester, N. Y., were well known a few decades ago. But their work was crude and far from scientific. Later, plastic work was executed by a limited number of nose and throat specialists. It was soon apparent that plastic surgery demanded a particular aptitude and, above all, a sense of the artistic together with a mastery of specialized technic. Such men as Dr. Safian in this country, Dr. J. Joseph of Berlin, and Dr. Gillies of England, have placed this specialty on a scientific basis.

We particularly recommend this book. It should be read with pleasure by any surgeon interested in reparative work but it should particularly appeal to those who have a leaning toward specialization and need a valuable book to give them the exact knowledge in which they may be lacking.

HAROLD HAYS.

About Tuberculosis for the Patient

TUBERCULOSIS. A Book for the Patient. By Fred G. Holmes, M.D. New York. D. Appleton-Century Co., 1935. 8vo. 312 pages. Cloth, \$2.00.

In writing this "A Book for the Patient," Dr. Holmes has fashioned an eminently sane, practical and most interesting book on pulmonary tuberculosis.

In presenting the subject ostensibly to the patient, he covers pretty thoroughly the whole field. There is hardly a question that might arise in either the mind of the

patient or of the patients' relatives that has not been anticipated in this book and answered so clearly and so thoroughly as to leave no question of doubt in the mind of the reader. Some of the chapters, in the first part of the book, are devoted to such subjects as Early Tuberculosis: The First Symptoms, Choice of Physician, The Physician's Responsibility, The Patient's Reaction to the Diagnosis, The Family's Cooperation, Planning the Treatment. One chapter gives a most excellent presentation of the rationale and physiology of rest and its application to the treatment of pulmonary tuberculosis. The second part of the book is devoted more definitely to the description of the various mechanical means we have of bringing about localized rest to the lung and most certainly covers every possible phase of the subject.

The book is of distinct educational value and as much so to the average general practitioner as to the layman.

Your reviewer heartily endorses every word in the book and recommends it with enthusiasm to the public.

FOSTER MURRAY.

Treatment by Manipulation

MANIPULATIVE TREATMENT FOR THE MEDICAL PRACTITIONER. By T. Marlin, M.D. New York, Longmans, Green & Company, 1934. 133 pages, illustrated. 8vo. Cloth, \$3.75.

The author has endeavored to place in the hands of medical practitioners, methods common to the osteopath and other cults. In his elementary introduction, he quotes, "Unfortunately the bad results never gained so much prominence as the few occasional cures. Added to this is the fact that all of us like to be fooled." We presume he means the public. Again he quotes, "Medical men are bad salesmen." His many manipulative measures for various parts of the body are not new to the experienced orthopedist, but if the medical practitioner should attempt to follow the descriptions given in this work he would be grossly misled for the author begins well in his description, but stops too abruptly, excluding detail. He would have us believe that manipulation and traction of the head will relieve headaches, which in reality may be caused by scores of other etiological factors; that a coccyx displaced by trauma might be manipulated into its normal position; that a surprising amount of movement is present in the sacro-iliac joints. (This is not so after the 2nd and 3rd decade). We would not recommend the inexperienced operator of manipulative measures, to follow the shallow descriptions and misleading illustrations set forth in this work.

JOSEPH I. NEVINS.

The Relation of Weather to Health

LIVING WITH THE WEATHER. By Clarence A. Mills, M.D. Cincinnati. The Caxton Press, [c. 1934]. 206 pages. 12 mo. Cloth, \$1.50.

Although the title and the professorial distinction of the author lead one to believe that every man's nemesis is about to be dissected rationally, the first nibble reveals the deception. Whereas most mortals rarely rise above the weather as a means of breaking the conversational ice, this book is a conversational monograph on the subject. Nor does it soar above the platitudinous level of sidewalk pleasantries. Aside from the deluge of unsupported assertions, half-baked notions and hot-shot ideas, there is a rapid change from hot to cold, fair to warmer and calm to storm in the style which is now muted to the needs of the children's bed-time hour on the air and now whipped up to the turbulence of a revivalist cramming the climate down your throat. With Mark Twain, we are still waiting.

SAM PARKER.

Food Faddism

SALT WATER & HEALTH. By Frederick Hoelzel. Chicago, Frederick Hoelzel, 1934. Octavo, 32 pages. Paper, 50 cents.

The author of this pamphlet is a layman with an enthusiasm for the subject of diets and dieting, a combination that is responsible for many grotesque fads. His previous papers seem to have been offered the hospitality of a number of journals of high scientific rank, but the present offering is based on such slim evidence and is so lacking in balance that one can regard it as scarcely

more than suggestive. Such half-baked publications are too often the source of dieting "movements" which are sponsored and capitalized by irresponsible individuals to the detriment of public health.

S. G. SLO-BODKIN.

Sex Aberrations in Women

FEMALE SEX PERVERSION. By Maurice Chideckel, M.D. New York, Eugenics Publishing Company, [c. 1935]. 331 pages, illustrated. 8vo. Cloth, \$6.00.

The past decade has seen the appearance of a great number of books on sex, sex practices in various lands, and sex perversions of all times. These books range in size from a pamphlet to a "set" of several volumes; and in information, from the most ultra-scientific and highly technical works, to those that are merely "sexy" and designed solely to stimulate the lay imagination and fill the coffers of the publishers.

There was, however, a need for a publication written in plain English that could be understood by layman and physician alike, which nevertheless carries the authoritative stamp of the author, and which elucidates dispassionately and correctly the scientific facts of the subject. With this work, the author fills that need. He has succeeded in writing a book in a popular, readable and interesting vein, and yet with a strict adherence to scientific facts. It is obviously not designed for the specialist, but for the physician uninformed on that subject, and for the educated intelligent laity. The book covers the most common perversions met with in the female, such as,—homosexuality, narcissism, exhibitionism, sadism, masochism, kleptomania, masturbation, tribadism, transvestism, frigidity, nymphomania, etc.

In the chapter on Frigidity, and in speaking of the causes of the same, the author says on page 275, "The taking of too many alkalooids, like sodium bicarbonate, may be a cause." That sodium bicarbonate is an alkaloid, and that its use causes frigidity, are both "facts" new to the reviewer. Let us hope that these statements are merely typographical errors.

We agree heartily with the author's view on masturbation in women. Those "tremendous effects," and those "dire" results of masturbation, about which so many authors speak, are certainly greatly exaggerated; and all clinical gynecologists will admit that it is only in the rare case where most excessive masturbation had been practiced, that any physical or functional changes may be found. Where there is any mental, emotional, or psychic aberration in such a patient, it is not due to the masturbation; but rather to some other fundamental cause, of which masturbation is but one outward symptom.

The book is highly recommended to the physician who is not well informed on the subject, and who wishes a simple introduction to the more technical works; and to teachers, educators and social service workers.

J. HALPERIN.

An Authoritative Proctology

DISEASES OF THE RECTUM AND COLON AND THEIR SURGICAL TREATMENT. By J. P. Lockhart-Mummery, F.R.C.S. Eng. Second edition. Baltimore, Williams & Wilkins Company, [c. 1934]. 605 pages, illustrated. 8vo. Cloth, \$10.00.

After a period of eleven years a second edition of this book is brought forth. The arrangement has been changed so that diseases of the anus and rectum are dealt with in the first part while diseases of the colon are placed at the end.

In the present edition there have been incorporated ninety new illustrations. In addition to that, new chapters on precancerous lesions and acute intestinal obstruction have been added. The reviewer considers these additions of inestimable value.

The author's ideas on anal crypts and papillae are not generally shared by American proctologists. Amebiasis and the anorectal phase of lymphogranuloma inguinale have not received the consideration which they deserve. It must be remembered, however, that in the preface to his first edition, the author stated, "This book has been written mainly as a record of my own experience at St. Mark's Hospital and in private practice."

The book is written in an easily readable style. In fact, it reads like a novel. The author, a man of wide ex-

perience, thus combines literary excellence with authoritative surgical information. Those interested in this branch of surgery would do well to add this volume to their libraries.

A. W. MARTIN MARINO.

Clendening's Therapeutics

METHODS OF TREATMENT. By Logan Clendening, M.D. Fifth edition. St. Louis, C. V. Mosby Company, [c. 1935]. 879 pages, illustrated. 8vo. Cloth, \$10.00.

The general plan of previous editions is followed of gathering material otherwise widely scattered in medical literature, and of describing how to carry out various therapeutic procedures, often merely mentioned in books on the practice of medicine. The aim of the author is to describe each method of procedure so clearly that a person who has never seen it performed could do it from the description.

Part 1 describes the measures employed in general therapeutics, running through a detailed description of all of them and Part 2 deals with Special Therapeutics—The Application of Therapeutics to Particular Diseases.

The author's ability as a writer is well known and this is an encyclopedic reference volume of great value.

W. E. MCCOLLOM.

Oral Diseases

DISEASES OF THE MOUTH AND THEIR TREATMENT: A TEXTBOOK FOR PRACTITIONERS AND STUDENTS OF MEDICINE AND DENTISTRY. By Hermann Prinz, D.D.S., M.D., and Sigmund S. Greenbaum, M.D. Philadelphia, Lea & Febiger, 1935. 602 pages, illustrated. 8vo. Cloth, \$9.00.

The general practitioner of medicine or dentistry finds many occasions upon which he could use a ready reference text-book on the diseases of the mouth and their treatment. Hermann Prinz and Sigmund S. Greenbaum have given us just such a treatise, covering Embryology and Anatomy of the Oral Cavity. The Physiology of the Oral Cavity, The Significance of the Teeth in Relation to Oral Digestion, Examination of the Oral Cavity, Symptomatology of General Disturbances Within the Oral Cavity, Oral Hygiene and Dental Prophylaxis, Oral Manifestations of Local Origin, Oral Manifestations of Metabolic Disturbances, of Blood Dyscrasias, of Avitaminoses and of the Ductless Glands, Oral Manifestations of Infectious Diseases, Oral Manifestations of Tropical Diseases, Stomatomycoses and Animal Parasites, Oral Manifestations in Skin Diseases, including Pigmentations and Drug Eruptions, Diseases of the Tongue, Diseases of the Lips, Cheek and Palate, Diseases of the Salivary Glands and the Floor of the Mouth, Diseases of the Oral Cavity Associated with Nervous Disturbances, Tumors and Cysts of the Oral Cavity, and Therapeutic Suggestions.

In compiling this book Dr. Prinz and Dr. Greenbaum have drawn upon their wealth of clinical experience and years of teaching with a clear and concise presentation of the subjects at hand. The book is well illustrated, well indexed and in our opinion is the most valuable contribution to dental literature of the year.

LAWRENCE J. DUNN.

Clinical Neurology for the Practitioner

PRACTICAL NEUROLOGICAL DIAGNOSIS. With special reference to the Problems of Neurosurgery. By R. Glen Spurling, M.D. Springfield, Charles C. Thomas, [c.1935]. 233 pages, illustrated. 8vo. Cloth, \$4.00.

This book is divided into three portions.

Part 1 deals with the neurological examination. The method of history taking is discussed. The author then devotes chapters to the cranial nerves, the cerebrum, the cerebellum, the spinal cord and the reflexes. In each case the anatomy is first presented followed by the clinical picture produced in disease of each anatomical area.

Part 2 is devoted to a discussion of the cerebro-spinal fluid.

Part 3 deals with X-ray diagnosis with particular reference to air injections. There are interesting diagrams throughout the book which help greatly in making clear the correlation of anatomical and clinical diagnosis.

This book should serve its purpose in acquainting the average practitioner with a systematic method of making a comprehensive neurological diagnosis.

STANLEY S. LAMM.

Diet in Tuberculosis

THE HERRMANNSDORFER-SAUERBRUCH DIET. By Robert Wollheim and Walter H. Schaubinsland, Ph.D. New York, Professional Scientific Service, 1935. 66 pages. 12mo.

This is a small pamphlet written by Drs. Robert Wollheim and Walter H. Schaubinsland with a foreword by Dr. Joseph Alexander of New York, on the much discussed and much debated subject of the dietary treatment for tuberculosis.

It may be said in passing, that the Sauerbruch and Herrmannsdorfer diet, and the Gerson diet, and various modifications of these diets have been before the public notice for some ten to twelve years. They have been thoroughly tried out in a number of different clinics throughout the world and given very fair and unprejudiced trial. As a result of all these trials and experimentations about the most that can be said in favor of any of these diets is that in certain types of tuberculosis, particularly skin tuberculosis, they have been found to be of some certain definite value, but as far as influencing the course of pulmonary tuberculosis, very little can be said in favor of them.

For one who would seek further knowledge on the subject, we might recommend a perusal of this pamphlet which covers the subjects very thoroughly and which provides for many different menus and combinations of foods and chemical substitutes for sodium chloride, etc.

FOSTER MURRAY.

Helping the Cardiac to Understand His Condition

WHAT YOU SHOULD KNOW ABOUT HEART DISEASE. By Harold E. B. Fardees, M.D. Philadelphia, Lea & Febiger, [c. 1935]. 127 pages, illustrated. 12 mo. Cloth, \$1.50.

This little volume of 127 pages is to be commended for its simplicity and for the message it brings to the cardiac patient. The author believes it is the best policy for the patient with disease of the heart to be informed. The heart and its workings are a land of mystery to the layman and a proper understanding will allay much of the fear and the imaginary dangers that the public associates with heart trouble. Shortness of breath, palpitation, precordial pain and edema, the cardinal symptoms of heart disease, are explained in simple terms. The chapters on cardiac murmurs, the arrest and cure of heart disease prove valuable reading to the cardiac patient. Regularity of treatment, frequent medical consultation and wholehearted co-operation between the doctor and his patient spell comfort and a long life to the cardiac. The standard medical remedies, diet, rest and exercise, subjects which trouble almost every patient, are all presented with great clearness. This book deserves the gratitude of the cardiac patient.

SIMON FRUCHT.

Child Guidance

GUIDING YOUR CHILD THROUGH THE FORMATIVE YEARS, FROM BIRTH TO THE AGE OF FIVE. By Winifred de Kok, M.R.C.S., L.R.C.P. New York, Emerson Books, Inc., 1935. 191 pages, illustrated. 12mo. Cloth, \$2.00.

As the name indicates this book presents some interesting points with reference to the guidance of infants through childhood.

The author reemphasizes the Watsonian precepts such as the avoidance of sudden loud noises in the presence of infants. She calls for a retention of swaddling clothes in infancy and suggests keeping all infants indoors until 3 months of age. There are interesting chapters on freedom for the child as well as preparing the first born for the arrival of the second.

This book should be of interest to parents for whom it is intended as well as to physicians.

STANLEY S. LAMM.

A Popular Description of the Insane

I KNEW 3000 LUNATICS. By Victor R. Small, M.D. New York, Farrar & Rhinehart, Inc., [c. 1935]. 273 pages. 8vo. Cloth, \$2.50.

This book represents the story of mental disease as observed, during a period of about six years, by a staff physician in a State Hospital caring for approximately 3,000 patients. Into the story are woven the various mental reactions as seen by this observer. It presents a drama in which the mental patients are the chief actors. While there are described some incidents that are pathetic, the

humorous sides present themselves frequently. It covers, in an interesting way, the outstanding types of mental reaction, and while it may not be considered, strictly speaking, a text-book, it sets forth a groundwork on which could be based a further and more ample study of psychiatry. Although the phraseology is not always attractive, and some of the accounts seem somewhat embellished, incidents, strikingly similar to those related have been quite common in the experience of any seasoned psychiatrist. To the beginner, the book might afford an appropriate introduction to the study of mental disease. It might, in a measure, satisfy the morbid interest of the laity in these matters and one has the fear that by being too commonly read, just for amusement, respect for it as an aid to the study of psychiatry might be materially lessened.

A. E. SOPER.

Practical Discussion of the Safe Period

THE MODERN METHOD OF BIRTH CONTROL. By Thurston S. Welton, M.D. New York, Walter J. Black, Inc., [c. 1935]. 168 pages, illustrated. 12mo. Cloth, \$3.00.

An interestingly written, easily read, book intended to meet the modern thirst for information on the new knowledge of the safe period. The author's position as a gynecologist and editor of the American Journal of Surgery adds tremendously to the importance of the work. Briefly, the author says, "The modern method offers a time during which it is well nigh impossible for the wife to become pregnant. On the other hand, for those desiring pregnancy, it indicates the best time . . . to gain this end." No method is certain and many methods are repulsive except to the hardened and calloused; they are unaesthetic and revolting. The modern method simply means control of the will.

About half the book is devoted to Dr. Welton's development of this idea. Handsome colored charts covering types of cycles and an ingenious calendar wheel to be applied to them quickly show the safe and unsafe periods in any month.

Written in a delightful style in plain English, we can recommend it to the doctor as well as the patient for whom it was written. As a quick reference book for the consulting room it has no peer.

CHARLES A. GORDON.

A Theory of Mineral Metabolism

HYDROCHLORIC ACID AND MINERAL THERAPY. By Walter Bryant Guy, M.D. Philadelphia, W. Roy Huntsman, [c. 1934]. 129 pages. 12mo. Cloth, \$2.00.

Empiric medicine even in these days of scientific research is in some instances both justifiable and interesting. The reviewer, however, cannot accept the principles outlined in this book nor condone the logic by which the conclusions were reached. This type of arm-chair philosophy and the case-reports on which it is built are distasteful to any lover of orthodox medicine. It is to be regretted that fancy has carried the writer so far outside of the precincts of scientific medicine.

GEORGE E. ANDERSON.

Sex Relationship in Marriage

MARRIAGE AND SEXUAL HARMONY. By Oliver M. Butterfield, M.A. New York, Emerson Books, Inc., 1934. 8vo. 40 pages, illustrated. Paper, 50c.

"Whatever else marriage may be it is always a social matter, a problem of living happily together." This sentence introduces the general subject of how "to be happy though married." Married life should always be one of happiness. Unfortunately it is not. If the married couple understood better "sexual life" or would early strive for "sexual harmony", many of their problems would become greatly simplified. Say what you will, it is the lack of co-ordination through ignorance in sex relationship that wrecks many otherwise happy marriages. There are those—male and female—who imagine they disdain—a few absolutely abhor—anything pertaining to sex, but such persons camouflage their feelings to a considerable extent. They are repressed and fearful. They need sound authoritative advice given in understandable language that may enable them to release their subjugated feelings. Such advice may lead to complete sexual harmony and happiness.

This brochure gives sound understandable advice and

definite detailed information on marriage and sexual harmony and can be recommended with impunity, to all those in need of such information.

HARVEY B. MATTHEWS.

A Surgeon's Half Century

FIFTY YEARS A SURGEON. By Robert T. Morris, M.D. New York, E. P. Dutton & Co., Inc. [c. 1935]. 347 pages. 8vo. Cloth, \$3.50.

Fascinating. Kindly. Rich in experience. To the point. Cheerful. Helpful. The philosophy of a man who has accomplished a great deal. The old and the new. Every doctor will take courage from it. He will find many original ideas. Fourth Era of Surgery a revelation. Morris will always be remembered for this contribution. The work of a deft surgeon—the in-and-out kind who takes only a few minutes to do his job. Everything in it—the medical school of the eighties, interning at Bellevue, advent of antisepsis, advances in technic, doctor of the eighties, appendicitis, osteopathy, psychoanalysis, fee-splitting, surgeon's fee, etc. Damn this book—I actually sat up until 4 a.m. reading it; awoke at 7 and finished it. And it will take me a year to digest it.

MALFORD W. THEWLIS.

The Nervous Patient and the General Practitioner

THE NERVOUS PATIENT. By Charles P. Emerson, M.D. Philadelphia, J. B. Lippincott Company, [c. 1935]. 453 pages. 8vo. Cloth, \$4.00.

Reading the title, one may suspect that the book is written by a neuropsychiatrist, a physician, who because of his inherent interest and training, has devoted his entire medical activities in treating mentally sick people. But this is not the case. The author of the book is now Research Professor of Medicine at the Indiana University. He has wielded a powerful and salutary influence in medicine for a generation.

He approaches the subject from an organic viewpoint, and describes the various diseases in which certain "nervous" symptoms may occur. There are thirty chapters, full of interest, and quite well written. He calls attention to the fact that for every patient coming to the general practitioner for help for some organic disease, there are at least two patients who seek relief from symptoms that are generally referred to as "nervous." Therefore the need for detecting these disorders, and instituting adequate therapy.

The general medical practitioner will find the book much to his liking, for it will refresh his recollection of many similar patients whom he had treated. The psychiatrist may shrug his shoulders on reading the book, for he will find many of his patients described in a more or less foreign language and surely under a strange terminology.

Nevertheless, it is a fine book, stimulating not only in its contents, but also in the obvious criticisms that it may elicit from those who approached the "nervous patient" from a psychopathological viewpoint. It is bound to call attention to the fact that "the nervous patient" is not being adequately treated by physicians and therefore appeals to the various cults of non-medical practitioners for help. It may even stimulate the younger physicians to approach the subject from a more basic and rational point of view, namely psychopathology and psychiatry.

I. J. SANDS.

A Pocket Sized Psychiatry

AIDS TO PSYCHIATRY. By W. S. Dawson. Third Edition. Baltimore, William Wood & Co., 1934. 12mo. 318 pages. Cloth, \$1.50.

This pocket sized book is one of a well known series designed to assist in intensive preparation for examination or in brushing up of a subject. Its popularity is evidenced by this enlarged edition. The unified presentation of psychiatry including normal psychology, mental deficiency, mental hygiene, and case taking, is an adequate synopsis not too shortly clipped for good reading. The volume is especially commended for its review of the theories of neuroses, the psychoneuroses, and its treatment of psychoanalysis. The necessary brevity leaves many recent topics unexplained; and the medico-legal aspects are entirely British. It is an excellent and comprehensive compend and valuable for its designed purpose.

IRVING M. DERBY.